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ABSTRACT

These 3 studies investigated ways that high school boys vary in adaptation to different high school environments. The population was drawn from 2 all white, suburban-to-Detroit high schools with similarly sized enrollments and faculties, academic programs, structure of staff salaries, and demographic characteristics. One paper presents background data on the social environments of the 2 schools. Another compares, in a social situation not highly school related, the interpersonal styles of boys who differ in exploration preferences; considers the characteristics of social interaction for 10th grade boys; and attempts to capture the climate of the 2 schools as reflected in the atmosphere of the discussion groups. The 3rd paper presents the results of a self report study of 10th grade boys in a framework of person-environment interactions. The hypothesis here was that behavior, in this case perceptions, is the joint outcome of personal and environmental factors. This hypothesis was not supported by analyses of the variables reported here. (TA)

ED 058599

Interpersonal Behavior and Preferences for Exploration in Adolescent Boys: A Small Group Study[1]

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Introduction

The present study is an attempt to describe the interpersonal behavior of high, moderate and low explorers in a social situation not highly school related. S's were selected from George Gilmore's sample in an effort to add a behavioral dimension to an already broad range of self report data collected from the boys who had participated in Dan Edwards' and George Gilmore's studies. It was thought that the findings about school involvement, personality characteristics and identity development found in these two studies could be amplified by observing the boys in an on-going social situation with their peers. It was also expected that the group setting would provide an opportunity for the boys to modify and expand upon the type of information that is often very stylized in a one-to-one student-adult interaction.

There were three specific goals for the study: first, to compare the interpersonal styles of boys who differ in exploration preferences; second, to consider the characteristics of social interaction for tenth grade boys; third, to capture as much of the climate of the two study schools as might be reflected in the atmosphere of the discussion groups.

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[1]Paper presented at the Symposium "Methods and Styles of a Longitudinal Study of High School students," Seventy-Ninth Annual Convention, American Psychological Association, Washington, D. C., September 7, 1971.

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The Discussion Group Method

The discussion group deserves some comments. There were several reasons for choosing this particular method. The group setting straddles the line between naturalistic observation and a more tightly controlled experimental design in which all but one or two parameters of the subject's behavior are controlled. The group situation provided unique data about the ways the boys responded to a novel situation, their manners of organizing and expressing their opinions and feelings, and their styles of engaging a comparatively non-threatening adult authority. These three elements are at the core of what one might call the interpersonal elements of a coping strategy. It was anticipated that the behavioral data from the groups would provide some validation for the notion that social exploration unfolds and develops differently depending upon the individual's preference for that coping style and the environmental supports or restraints for its expression.

Finally, the group was a microcosm of the school cultures. The norms for "play" in the school settings, the style of responding to adults, the patterns of dealing with outsiders, the strategies for handling stressful or novel situations that might be characteristic of the school cultures were re-enacted in the group setting. Even though the boys had only been at thes two schools for five months, it was assumed that they brought the stylistic characteristics of the two school environments to the group.

Verbal and Non-verbal Coding

Data to be reported here is based on observations of the experimenter and two observers' verbal and non-verbal coding and the S's responses to a post-group evaluation questionnaire. The verbal coding scheme which makes up the primary source of data was an act-by-act system based on a combination of categories used by Bales (1970) and Mann (1967). There were nine verbal categories, five affective and four cognitive or task categories. In coding each statement, only one category was scored. In order to obtain cognitive categories that were free from affect, any act that had an affective message was coded in an affect category and not a task category. Reliability for the verbal coding system was estimated by the percentage agreement method. Over all agreement between two coders was 77 percent. The categories were used with varying frequencies. The range of reliability for the separate categories was from 20 percent for acting hostile and unfriendly to 90 percent agreement for expressing anxiety.

Critical Variables

The effects of level of exploratory preference, school, and group session were measured for ten dependent variables: participation, initiation, range of affective expression, interaction with the group leader, affect expressed to the group leader, use of the leader as a resource, the amount of conflict in the group, the perception of conflict in the group, involvement with other group members and ideas for change. The operational definitions for each variable are summarized in Table 1.

Results

Before discussing the data about the specific study variables, a more general description of the interpersonal behavior of two boys, Dave and Harrold, who were described earlier by Edwards and Gilmore will be presented. The case studies of Dave and Harrold that follow are intended to demonstrate the value of using both self report and behavioral observation in the study of coping behavior.

Dave: A High Explorer at Wayne

During the first four group sessions, Dave said very little. He sat looking down at his hands. His remarks were directed most specifically to the group leader. Session five brought a dramatic change in his behavior. During that hour he was energetic, animated, eager to be noticed. He spoke quickly and loudly as if competing with the group for the leader's ear.

After that session, Dave remained an active but unpredictable member. He would move quickly from withdrawal to high energy involvement. In the middle of a conversation he might burst in with "Do you know what happened to me yesterday?" His tales usually involved a certain bravado, a denial of concern about others' reactions to him. At moments he could be cutting and sarcastic, then he would turn quickly to seek support. Dave seemed torn between needing to lash out at the leader and to be reassured of her approval and attention.

Table 2 summarizes the data for Dave and Harrold on six of the dependent variables measured in the study.

The outstanding features of Dave's interpersonal style were his high

rate of initiation, the great frequency of acts directed to the leader, and his extreme low rank on expressing anxiety.

Dave was keenly tuned in to the leader. It was he who suggested that she might save time by buying doughnuts near to the school. On the other hand, Dave appeared to be quite immature in his ability to respond to the other boys.

Gilmore found Dave to be "totally unreflective." Dave's responses to many of the interview questions appeared to be global and undifferentiated. Looking at his participation in the group, it was clear that Dave was initially quite suspicious and defensive in his response to the group leader. His early group behavior was both flippant and hostile. As the group continued to meet, however, Dave's suspiciousness was replaced by genuine warmth and eagerness to be a group member. In these later meetings, he did make some rather insightful comments about himself and his relationship to others. At the basis of these remarks, however, was a quality of cynicism which might be mistaken for a non-introspective style.

Dave's scores on several of Edwards' factors are clearly supported by his participation in the group. Dave had a high initiative score on Edwards' questionnaire. His initiation score in the group was also very high. Dave expressed a relatively high need for social approval. This need may have been expressed in Dave's persistent efforts to gain the group leader's attention and approval. Dave's varied scores on ratings of school, teachers and his ability to change the school reflect some of his mistrust of the environment. His defensive technique for

dealing with the anxiety and mistrust he feels is to respond in an extremely positive or extremely negative but always undifferentiated manner.

Harrold: A Moderate Explorer at Thurston

Harrold was quite self confident for a boy his age. He assumed a leadership role in the group, particularly in the absence of the more verbal high explorer. It was almost as if he felt that it was his duty to help the group along, something of a "noblesse oblige."

Harrold was more varied in his expressions than many of the other group members. He was willing to discuss his personal involvement with sports. He also had a variety of opinions about teachers, students, politics, etc. Usually these opinions conveyed something of a discouraged or cynical note. He did not have much faith that people in whatever capacity were trying their hardest or being entirely honest. He also did not seem to feel that there was much he or anyone else could do about it. The themes of discouragement and self-righteous anger were strongly interwoven in his comments.

The important features of Harrold's interpersonal style were his relatively high score for participation, high cognitive expression and his extremely high focus on the leader. In spite of these signs that might be interpreted as evidence of serious involvement with the group, Harrold only attended four group sessions.

The data confirm that Harrold was something of a group leader, particularly the fact that more boys talked to him than he talked to. The other characteristic of Harrold's style that is captured by the data is his focus on the group leader. As with Dave, Harrold respected or cared

more for the leader's attention than for the other group members. In fact, one might interpret scorn for the other group members from some of Harrold's behavior. In any case, the group situation did not hold Harrold's energy, perhaps because of the lack of focus, perhaps because of the leader's failure to respond positively to his remarks.

Harrold was described by Edwards and Gilmore as a boy who has confidence, high self esteem and many areas of competence both athletic and academic. Nonetheless, he is not highly identified with the school and is quite critical of the way the school is run. Harrold also has a very negative view of his peers. These responses to the school and to his peers appear to be a defensive projection of the deficiencies or inadequacies Harrold may fear in himself.

In the group Harrold's confidence as well as his scorn for others was expressed. He appeared to be somewhat more involved in the school than is evident from the interview day. However, this involvement (on the wrestling team) may have been more an expression of Harrold's personal needs than an expression of identification with the school. One addition to the picture provided by Gilmore and Edwards was Harrold's persistent focus on the group leader. In Harrold's case, this concentration on the leader was, at the same time, a message of rejection to the group members.

Summary of the Results

The main trends for exploration and school differences with respect to the dependent variables are summarized in Table 3. This table highlights patterns in the data regardless of their statistical significance. Using these data, the quality of the group interaction at the two schools

and the differences in coping styles between high, moderate and low explorers are characterized below.

A Summary of School Differences

The group at Wayne was characterized by an active subgroup which participated frequently and initiated much of the interaction. There was also a quiet subgroup which directed most of its acts to the group leader. There tended to be a high level of affective behavior in the group of a joking and teasing quality. This resulted in a greater amount of observed conflict in Group 1 than in Group 2. With respect to the group leader, the boys in Group 1 were likely to direct their affective expressions toward her in a teasing, bragging or anxious manner. They were also likely to respond to her as a personal resource, asking questions about her role, her experiences as a graduate student, and her expectations for the group.

The group at Thurston tended to respond rather homogeneously to the group situation. There was a much more restricted range in participation and initiation than at Wayne. One group member who might have proved to be an extremely active participator only attended two of the seven recorded group sessions. Thus, his potentially extreme response was not evidenced through most of his sessions. In general, there was a more even balance between affective and task-related interaction in Group 2. The affective behavior in Group 2 was dominated by expressions of anxiety. The boys tended to be more preoccupied with the group leader and more self conscious in their interaction with her than were the boys in Group 1. More of their hostile responses were directed to her than

to the other group members. In general, their response to the situation was cooperative but skeptical. This reaction is well summarized by the response of one group member at Thurston to the question of whether the group experience should be included as a regular part of high school. He answered, "Yes, if somebody thinks it will change something." In generaly, the boys at Thurston were more reserved about the group and somewhat more sophisticated in differentiating it from their other daily experiences.

A Summary of Exploration Differences

The variability of behaviors within each exploration subgroup was usually too great to allow any clear differentiation by exploration groupings. The data did tend to suggest an interaction between exploration and school with respect to the group situation. The high explorers at Wayne and the low explorers at Thurston responded most enthusiastically to the group.

At Wayne high explorers tended to be high participators. They also tended to be high initiators. Their affective style was characterized by a great deal of dramatizing and joking. They were the highest group in directing their remarks to the group leader.

The moderate explorers at Wayne took a middle position on these variables. They were unique in that they expressed more friendly acts and more discouraged acts than the other two groups. They appeared to be least involved in conflict. In fact, the moderates at Wayne tended to be the most work-oriented group members trying to stick to the topic and to keep the discussion moving along.

Low explorers tended to be low participators, low initiators, and

low in their affective expression. They were highest in expressing hostility and joined the high explorers in engaging in conflict. Considering their lower level of participation, the quality of contentiousness appeared to be a strong characteristic of their style.

The pattern was quite different at Thurston. The high explorers appeared to be minimally involved in the group. They were low participators, low initiators and low in expressing affect. They were also unlikely to get involved in conflict and they made minimal contact with other group members.

The moderate explorers were moderate in participation, initiation and affective expression. The tended to communicate hostility and discouragement more than the other two groups. Moderates tended to direct the highest proportion of their acts to the leader. The moderates at Thurston were somewhat ambivalent about the group. They expressed more discomfort and hostility about their situation and about the group in general than did the other group members.

The low explorers appeared to be most involved with the group. They were high participators, high initiators and high in affective expression. Their affective style was characterized by more friendliness and anxiety than the other two groups. In contrast to the high explorers at Wayne, they were more focused on the other group members than on the leader. In many ways the low explorers at Thurston were more like moderates at Wayne except that they did not express as much discouragement.

Implications for Intervention and Research

The results of the present study suggest two directions for further

work. First, the author is intrigued by the possibility of designing an intervention for the high school curriculum that takes into account some of the information that has been gathered here. Second, the results indicate topics for future research in the area of adolescent coping styles.

A Small Group Intervention

The response to the group at the two schools suggests that while some kind of group setting to enhance self esteem would be a valuable addition to the tenth grade year at both schools, the situation would have to be uniquely designed for each setting. The general success of the group at Wayne suggests that the boys would be highly motivated to participate in such a group, particularly if girls were included. At Wayne the active, dramatic style of some of the boys tended to prevent other boys from participating. A discussion group at Wayne might easily be focused around the task of learning interpersonal skills. This might involve exercises in role playing, in expressing feelings of hostility and warmth directly, and in learning to listen and respond appropriately to another person's point of view.

The group would provide some continuous contact with a school adult in a non-academic setting during the first year of high school. This contact would help those students who are less likely to actively engage adults in the school to feel accepted and valued by them. This setting would also provide an opportunity for students to voice their complaints and problems about school within a context that might allow for constructive solutions. Finally, the group would provide the students with a core of friends during the first year with whom they could develop their

interpersonal skills and shed some of the artificiality of a pretense of maturity.

At Thurston the suspicion and threat of intrusiveness was much greater than at Wayne. It took a much longer time for boys at Thurston to begin to admit any of the other group members into their life space. A group experience at Thurston would probably have to be highly structured and nonevaluative. It might involve a group project like leveling the field or painting houses or building toys for children at an orphanage. The focus for these groups would be on cooperation and interdependence. The interpersonal focus would be added after the group members had begun to know each other on an experiential level. One possibility might be for the tenth grade year to begin with a two-week wilderness camping trip where boys and girls learned about skills for survival in small groups of ten or twelve. This type of experience could provide the beginning for an identification with a small group of peers. Discussion sessions that followed such a common experience would profit from the authenticity of the contacts that took place in that first experience.

The group situation is a legitimate setting for social and emotional development. At both schools these areas of personality development are influenced either deliberately or inadvertantly by the norms for social interaction that function in each setting. The group provides a focus for these concerns both by students and faculty. The group could offer a bridge between the school's goals for intellectual development and for the growth of social responsibility and the student's needs for personal satisfaction.

Research in Adolescent Coping Styles

An unanticipated characteristic of the interaction in the two study groups was the frequent use of the dramatizing category. This quality of joking, mimicking and fantasizing was a predominant quality of the boys' responses to one another and to the group leader. At both schools the boys enjoyed entertaining each other with stories and tales that were clearly exaggerated or completely independent of reality. This quality of interpersonal behavior suggests that fantasy may have a critical function in the psychological development of adolescents. Caught, as they are, a long way from the experiences which society associates with adulthood, they use their imaginations to create images of themselves that replace infantile idealizations. Through fantasy, perhaps even more than through peer contacts, adolescents fight out the struggle between childhood and adulthood. It is the preoccupation with this fantasy world that is identified as immaturity. The present research suggests that a key to the development of an effective adaptive style is the ability to use fantasy as a tool for the resolution of one's ambivalences about growing up.

A final implication for research refers more specifically to exploration as a coping style. There is a good deal of evidence from the present study and from other work that tenth grade boys do not frequently conceptualize or bring about change. The link between exploration and change-oriented behaviors might, at best, begin to be observed by the eleventh or twelfth grades. A more promising direction within the school context for following the adaptive strategies of high, moderate and low explorers might be to describe the use they make of the human resources

in their environments. The pattern of relationships the boys establish with the adults in the school, for example, might serve to highlight the active, independent quality of the high explorers or the reserved ambivalence of the moderate explorers. Which boys in the cohort make friends with the school administrators? Which boys know the cafeteria staff? Which boys have a relationship with the bus drivers? How structured or informal are these relationships and what needs or ends do they serve?

This line of investigation makes the notion of adaptation quite concrete within the school context. The quality of relationships and the specific school adults involved might easily change as the three years of school go by. Tracing this change would provide some insight into the functions adults serve for different students. Following the changing pattern of relationships with school adults would also help to identify the evolving character of the boy's coping style. The particular behavior of seeking out and interacting with school adults may be more compatible with the life of all levels of high school students than is the path toward innovation and change.

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TABLE 1

The Operational Definitions of Ten Dependent Variables

Interaction Style	
Participation:	Total number of acts Number of group sessions attended
Initiation:	Acts not preceded by Category 9 in verbal coding system, "asks for opinions, suggestions or orientation"
Range of Affective Expression:	Proportion of total acts coded in each affective category (1-5) of the verbal coding system
Responses to the Leader	
Interaction with the Leader:	The number of acts directed to the leader
Affect Expressed to the Leader:	The proportion and range of affective acts (Categories 1-5) directed by each member to the leader
Use of the Leader as a Resource:	The proportion of acts coded 9, "asks for opinions, suggestions and orientation," directed to the leader
Conflict in the Group	
The Amount of Conflict in the Group:	The number of conflicts coded The number of group members involved in the conflicts
The Perception of Conflict:	Reports on the amount of disagreement that took place during each session. Reports on disagreements each boy had with every other group member
Exploration within the Group Context	
Involvement with Other Group Members:	The number of boys each group member spoke to during each session The number of boys each member reports having gotten to be better friends with from the group
Ideas for Change:	Ideas about change suggested during group sessions and in the post-group evaluation

TABLE 2

A Comparison of Two Group Members
on Six Dependent Variables

Dependent Variable	Dave High Explorer Wayne	Harrold Moderate Explorer Thurston
Participation		
# of sessions	7	5
Total acts	607	572
Mean # of acts	87	143
Rank within group	5	3
Initiation		
# of acts	369	239
% of total	61%	42%
Rank within group	1	4
Affective Expression		
# of acts	300	258
% of total	49%	45%
Rank within group	6	7
Rank on friendly acts	6	8
Rank on anxious acts	9	9
Rank on dramatizing acts	4	4
Cognitive Expression		
# of acts	307	314
% of total	51%	55%
Rank within group	4	3
Interaction with Leader		
# of acts	339	382
% of total	56%	67%
Rank within group	s 2	1
Involvement with Others		
# acts sent	191	94
To # of people	4	3
# acts received	238	108
From # of people	4	4

TABLE 3

A Summary of Trends for Exploration and School Differences

Dependent Variable	Exploration	School
Participation	High explorers at Wayne moderates and lows Low explorers at Thurston moderates and highs	Extreme high and low amounts of participation at Wayne More honogeneous participation at Thurston
Initiation		More initiation at Wayne than at Thurston
Affective Expression	Moderate explorers exhibit a wider range of affect Low explorers at Wayne express the most hostility	More affective expression at Wayne, particularly dramatizing and denial
Interaction with the Leader	High explorers at Wayne interact more than moderates or or lows Moderate explorers at Thurston interact more than highs or lows	Somewhat more acts directed toward the leader at Thurston
Affect Expressed toward		More total affective behavior directed toward the leader at Wayne More hostility expressed toward the leader at Thurston
Use of the Leader as a Resource		More use of the leader as a resource at Wayne
Amount of Conflict	High explorers at Wayne and low explorers at Thurston engage in the greatest number of conflict situations	More conflict at Wayne than at Thurston
Perceptions of Conflict	Moderate explorers perceive more conflict than high or low explorers	
Involvement with Other Group Members	High explorers at Wayne and low explorers at Thurston were most involved with other group members Moderate explorers at Thurston were particularly uninvolved with other group members	
Ideas for Change		Ideas for change more clearly conceptualized at Thurston than at Wayne

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The Interaction between Personal Preferences and the High School Environment: Prediction and Description from Tenth Grade Students' Self Reports[1]

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In this paper the results of a self report study of tenth grade boys are presented. The basic framework for analysis is a conception of person-environment transaction (Edwards, 1971; Pervin, 1968) or person-environment interactions (Trickett, Kelly and Todd, 1971; Lazarus, Averill & Opton, 1969; Sonquist, 1970; Endler & Hunt, 1968). The conception of person-environment interactions or transactions maintains that behavior, in this case perceptions, is the joint outcome of personal and environmental factors. Prior to the analysis of the data reported here, it was thought that varied environmental situations could be represented by two suburban Detroit area high schools. Different environmental effects were assumed to be "fixed" by the selection of two different high schools which vary in the socioeconomic status of the population served, in the rate of turnover of students and faculty, and in administrative style of the principals. The person factor was "fixed" by selecting groups of boys who represented three significantly different levels of exploration preferences (high, medium and low) as measured by the exploration

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questionnaire. A random sample serves as an additional control at each school. The exploration questionnaire purports to tap social exploration of the high school environment and contains items such as "I enjoy getting different groups to work together" and "I often have new ideas for class projects."

In this paper the person-environment transaction hypothesis is tested using 15 dependent measures. Four methods of analysis are utilized to provide slightly different information about the same variables. In each method school differences and person differences are expected. Analyses of variance using "school" and "level of exploration preference" as independent variables were carried out to test the person-environment transaction notion and to assess the predictive power of the independent variables.

Correlational and factor analytic studies were carried out on the same variables for four independent samples to show the different patterns of interrelationships between variables for groups in different environments. Norms were determined (mean scores) for each school to provide baseline data for the longitudinal study and to illustrate the social normative position of tenth grade boys on these variables.

Finally, from an individual difference perspective, six boys were looked at in terms of their patterns of scores. Supplementary information from open-ended questions allowed speculation about the boys' modes of coping and types of adaptations to their high school environments. Two of these boys are presented here.

This combination of four methods provides a network of empirical findings which analyze the students' perceptions of their high school experience from a predictive perspective (analysis of variance), in terms of the interrelationships between variables (the correlational

and factor analytic studies) from a social-normative perspective (the school norms), and from an individual difference point of view (the case studies). Results from any single analysis are elaborated and qualified by the findings from the different methods.

Method

A one hour self report measure was developed by Richard Rice and the author and was administered to 195 tenth grade boys at the end of their first semester in high school. Each high school contains a random sample (N=42, 45) and a stratified sample of 54 boys (approximately 18 high, 18 medium, and 18 low scorers). The boys were selected on the basis of their responses to the exploration questionnaire when they were in eighth grade. Data were collected over a two-week period, administering the self-report measures to groups of 20 to 30 boys at a time.

Results

In this paper 15 dependent variables are looked at. These results are illustrative of the other analyses which were carried out and which have been reported in detail elsewhere (Edwards, 1971). Thirteen of the measures are composite total scores for which reliability has been estimated by use of coefficient alpha (Cronbach, 1951).

The Dependent Variables

Tables 1 through 8 in the handout contain the items for each of the 13 composites and summary statistics.

Variable 1 is designated "School Change" and consists of nine 7-point change scales. For example, students were asked to indicate how important it is to change the way "his teachers teach" (Table 1).

Variable 2 is called "Perceived Opportunity." Here students checked how much chance their school gives them to do such things as "improve oneself" (Table 2).

"Identification" is the third composite and asks the student to indicate how much he "feels part of his school, classes, etc." (Table 3).

The fourth, fifth and sixth composites are the same five semantic differential items and to rate the "perceived positiveness of teachers, counselors, and principal." The anchoring adjectives are terms such as unfair-fair and helpful-unhelpful (Table 4).

A similar set of four semantic differential items is used for rating "positiveness of students in general" (Table 5).

The eighth and ninth composite scores are called "change physical self" and "change social self." These items use a seven-point change scale to assess the students' perception of desired change of self. Changing physical self deals with topics of height, weight, strength, looks and complexion. The change social self items ask the student how important it is to change himself as a student, as a son, worker, friend and others (Table 6).

The four remaining composites deal with self perceptions of initiative, depression, social problems and self esteem (a modified version of Rosenberg's [1965] scale). Initiative contains items similar to the exploration scale such as "I take risks where I might fail" and "I suggest better ways to do things." The depression composite focuses on problems with concentration, problems expressing anger or a lack of enthusiasm. Social problems contains five items which are about difficulty making friends, problems working with others and similar items. The self esteem scale contains ten five-point items dealing with self evaluations like "I am a useful guy to have around" or "I feel that my life is not very useful" (Tables 7 and 8).

The two remaining items are eleven-point scales. "School satisfaction" asks the student to indicate how much he likes school

while "School excellence" asks him "How good he thinks his school is."

These are the 15 major dependent variables. Some focus on organizational aspects of the school, like opportunity or students' perception of authorities. A few look at peer relationships and social interactions, and the remainder ask about self perceptions.

Analyses of Variance

General hypotheses: These 15 variables can be seen as assessing person-environment fit or person-environment discrepancy. It was expected that high exploration preference students would fit best in any school environment but that the degree of fit would be enhanced in a high turnover environment such as School 3. Low exploration preference students were expected to fit least well of the three levels and low explorers in the high turnover environment were expected to have the poorest fit. Thus significant school, person, and school X person interactions were expected for these 15 dependent measures. Figures 1a and 1b diagram the expected relationships. Most of the dependent measures were designed to assess fit. School change, physical and social self change, depression and social problems were seen as assessing person environment discrepancy.

Evidence to support the person-environment transaction hypothesis requires either significant person and environment effects or a significant interaction or both. This is not sufficient evidence to assert the validity of the transactional hypothesis. It is a necessary condition in that both person and environmental factors must be shown to influence dependent measures if the transactional hypothesis holds.

Persons with high exploration preferences were expected to differ from students with low preferences in that they should: desire less school change, see more opportunity, feel more a part of school, evaluate

their school as more excellent, and have a more positive view of school authorities. High exploration preference subjects were also expected to have a more positive view of other students, to desire less change of physical and social self, to have more initiative, higher self esteem, lower depression scores and fewer social problems.

Table 9 contains the F tests for these 15 dependent measures. There were no significant "statistical interactions" for any dependent measure. As can be seen, only one variable -- school excellence -- has both person and environment main effects.

Significant school differences are found for positiveness of the principal, change physical self and school excellence.

Significant exploration effects are found for school excellence, identification, initiative, social problems, self esteem, and satisfaction with school.

How Big a Difference is a Significant Difference?

Table 10 estimates the strength of these significant results using omega squared (Hays, 1963) which is similar to the squared correlation and is an estimate of the variance accounted for in the dependent measure. As can be seen, the strongest relationship accounts for only 15 percent of the variance. It is instructive to compare omega squared with coefficient alpha to see what proportion of reliable variation is unaccounted for. Again looking at the strongest relationship -- positiveness of principal -- we note that over 65 percent of the reliable variation ($\alpha - \omega^2$) is unaccounted for. While the schools are not identical, they are certainly very similar on the basis of these analyses.

Exploration does not turn out to be a strong predictor. Assessing exploration scores in eighth grade, however, we can predict (a year and a half later) how different groups will perceive their school, the degree

they feel part of their school, the amount of initiative, the perception of social problems, self esteem and satisfaction with school. We cannot account for much of the variation, but we can predict to a limited extent.

Blalock (1961) and Campbell and Stanley (1968) warn their readers about the possibility of inflated results due to stratification. The random samples and exploration scores from subjects when they were in eighth and ninth grades allow us to assess the possibility of significant effects due to stratification and consistency of findings over a one-year time span.

Table 11 shows the correlations for exploration and the 15 dependent measures for the four samples and the total group of subjects tested (N=195). A significant result was worthy of consideration if it accounted for at least six percent of the variance in the dependent measure. Significant exploration effects are considered to be general findings if at least six of the correlations for the four samples account for five percent of the variance. A significant exploration effect for the stratified group only, that is, a result occurring due to stratified matching, is one which occurs mainly for the stratified groups and in at least three or four instances.

Using these criteria there are three significant general correlates of exploration: identification, initiative, and social problems. Satisfaction with school relates significantly for ninth grade but not eighth grade findings.

The exploration effect for the school excellence variable is determined solely by the stratified group at School 3. It is not found in the random groups or for the stratified group at School 4.

The Factor Analyses

There is time only to touch briefly on these results here. They are

presented in more detail elsewhere (Edwards, 1971). Thirty variables were intercorrelated and factor analyzed. The 15 dependent measures already discussed, the exploration questionnaire scores and thematic exploration scores in both eighth and ninth grade, and other variables such as the Marlowe-Crowne Social Desirability Scale, Rotter's I.E. Scale, and Duncan's S.E.S. were intercorrelated and factor analyzed for the four independent samples: the stratified and the random sample at each school. Different factor patterns were expected for each school.

Inspection of the factor matrices showed them to be very similar. To assess the degree of similarity, all subjects were combined and the 30 variables intercorrelated and another factor analysis carried out. Table 12 shows the factor matrix which was obtained for the total sample (N=195). The 15 dependent variables discussed earlier are underlined.

The next step was to compare the given factor matrices. This was done with the aid of a factor comparison program developed by Lutz Erbring of I.S.R. based on a matrix algorithm provided by Ahmavaara (1954). Four common orthgonal factors emerged. Table 13 shows the high intercorrelations between the four common factors in the five factor analyses. This commonality of major factors (accounting for more than 40 percent of the variance between the 30 variables) again highlights the similarity of the populations at each school.

The strongest factor (18 percent of the variance) -- using the total sample analysis for interpretation -- is called school evaluation and contains the positiveness of authorities variables, the school change variable, school satisfaction and school excellence.

Exploration is the second strongest factor (9 percent of the variance) and contains the exploration measures and the initiative

variable.

Self change (8 percent) is the next factor and contains the change physical self, change social self, depression, and school change variable measures.

Self esteem (7 percent) is the fourth factor and contains the social problems variable, the two self esteem measures, the Marlowe-Crowne and Rotter's I.E. scales.

These orthogonal factors indicate that how a student perceives his school, his preference for exploration, his desire to change himself and self esteem are unrelated.

The Norms and Case Studies

This presentation illustrates the utility of the 15 variables and lays the comparative base for the following presentations by George Gilmore and Barbara Newman. They report different data on these same two boys.

Harrold is a medium exploration preference subject at School 4 while Dave is a high preference student at School 3. Tables 14 and 15 present the individual data on Harrold and Dave. Gilmore (1971), on the basis of a personal interview, describes Harrold as a well-built, handsome 15 year old whose physique and manner suggest he is more mature than his peers.

On the self report measures Harrold differs from the "average student" in that he wants the school to change; he sees less opportunity; he sees the counselors and principal as less positive; and while he likes school more than most, he says his school is lower on the excellence dimension. His exploration scores are near the mean but his initiative score is much higher than average. Harrold does not want to change his social self as much as most boys; he has a low depression score and

much higher self esteem and need for social approval than his peers. Harrold also sees other students as much less positive than the average student. Thus there is a picture of a boy who likes school but not the high school he is in. While he is high on initiative and self esteem, he is low on changing himself and on his evaluation of other students.

Harrold is an unusual boy for he still maintains ties with his junior high school. On open-ended questions he says he tries to go back there at least every other week to watch sports events and argue with his friends. He says his friends see him as a "different type" of guy that they do not understand. Harrold spends much of his time with them trying to explain the way he thinks. Another important place for Harrold is just outside of school. He goes there just about everyday to be alone and "think about things he doesn't have time for in school."

Harrold is happiest about meeting new people and being in high school, but he is unhappiest about the way his high school is run and "some of the people in the school." The best thing that could happen next semester would be for the school to change for the better. Harrold's best class was a science course that was open to everyone and provided a lot of freedom. His worst class was history because of his poor grade.

Harrold presents a picture of general dissatisfaction with school but softened by indications of liking school and some active involvement with school. Harrold's style of coping with high school seems to be one of not too active involvement while expending effort in other areas -- back at his junior high or sitting by himself outside of school. It does not look as though Harrold is going to run into any major problems in getting through school, but one does not get the feeling that he will

get a lot out of the three years he is there.

Dave, a high preference subject, is described by Gilmore (1971) as a thin boy who was cooperative, courteous, especially friendly, but very anxious during the interview. Dave obtained a curious pattern of scores on the 15 variables. He sets the lowest possible school change score; he gives counselors and his school the highest possible ratings. His exploration and initiative scores are above average, and he gives other students the highest possible positiveness rating.

Dave says he is happiest about the teachers and the students in school. He does not list anything he is unhappy about, and the only problem he sees with the school is "hard grading teachers." Dave says the most important place for him is at the end of the first-floor halls near an outside door because "you can have a cigarette there." There are usually about ten friends present who see Dave as the "joker" of the group. Dave's best class is journalism because he can write, talk with friends and do new things there.

In contrast to Harrold, Dave mentions more active involvement with school and he has much more positive scores on many variables. The extremely high scores and the unanswered questions on the questionnaire raise some questions about how good things really are for Dave, but on the basis of the data presented here, he seems to be coping with high school by getting actively involved.

Implications

1. The person-environment transaction hypothesis is not supported by analyses of the variables reported here. Two factors seem to be responsible. The schools are more similar than they are different, and each seems to include wide ranges of the same types of diversity. Second, the exploration variable is independent of most of the dependent measures

looked at. In the future specific situation and actual "exploratory behavior" should be looked at.

2. The factor analytic and factor comparison results support the finding of school similarity on four independent dimensions. The lack of predictive power of the exploration variable is explained in part by its emergence as a separate factor. The major general correlates of exploration are three: identification with school, initiative, and lack of social problems.

The independence of self esteem, desire to change self, exploration, and school evaluation provides a more complex picture of tenth grade boys' perceptions than was thought to be the case at the outset of the study. How much a person wants to change himself, his self esteem and how he sees his school were all thought to be interrelated. These findings may have implications for educational interventions. For example, a program to raise self esteem with the hope that a student will do better and evaluate school more positively might be proposed. The data here indicate that one could raise self esteem without affecting school evaluation or exploration preferences.

3. Stepping away from empirical findings, one implication which comes out of looking at the data is that most students are not very involved with school. Most students did not seem to consider the school as a resource but most could mention the constraining features of the school experience. A bit of speculation suggests that student involvement might be increased if the schools made explicit a norm for using the school as a resource. The diversity between students could be stressed and students encouraged to take advantage of the varied opportunities within the school.

References

Ahmavaara, Y. The mathematical theory of factorial invariance under selection. Psychometrika, 1954, 19, 27-38.

Blalock, H. M. Causal inferences in nonexperimental research. Chapel Hill, N. C.: University of North Carolina Press, 1961.

Campbell, D. T. & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand-McNally, 1968.

Cronback, L. G. Coefficient alpha and the internal structure of tests. Psychometrika, 1951, 16, 297-334.

Edwards, D. W. Exploration and the high school experience: A study of tenth grade boys' perceptions of themselves, their peers, and their schools. Unpublished doctoral dissertation, The University of Michigan, 1971.

Endler, N. S., and Hunt, J. McV. S-R inventories of hostility and comparisons of the proportions of variance from persons, responses, and situations for hostility and anxiousness. Journal of Personality and Social Psychology, 1968, 9, 309-315.

Gilmore, G. E., Jr. Exploration, identity development, and the sense of competency: A case study of high school boys. Unpublished doctoral dissertation, The University of Michigan, 1971.

Hays, W. L. Statistics for psychologists. New York: Holt, Rinehart, and Winston, 1963.

Lazarus, R. S., Averill, J. R., and Opton, E. M., Jr. Psychology of coping: Issues of research and assessment. Paper presented at Conference on Coping and Adaptation, Stanford, California, 1969.

Pervin, L. Performance and satisfaction as a functio of individual-environment fit. Psychological Bulletin, 1968, 69, 56-68.

Rosenberg, M. Society and the adolescent self-image. Princeton, N. J.: University of Princeton Press, 1965.

Sonquist, J. A. Multivariate model building. Ann Arbor, Michigan: The University of Michigan, Institute for Social Research, 1970.

Trickett, E. J., Kelly, J. G., and Todd, D. M. The social environment of the high school: Guidelines for individual change and organizational redevelopment. In S. Golann and C. Eisdorfer (Eds.), Handbook of community psychology. New York: Appleton-Century-Crofts, 1971, in press.

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TABLE 1

Items in the School Change Composite

Var. No.	Location	Item	Item-total correlation
11:47	B15a	The classes I'm in	.710
11:49	B15c	The way teachers treat me	.746
11:50	B15d	The way my teachers teach	.774
11:51	B14e	The things counselors do for kids	.647
11:52	B15f	The way kids are treated in this school	.746
11:53	B15g	The way the principal treats kids in this school	.683
11:54	B15h	The way I'm supposed to behave in this school	.613
11:55	B15i	The kids in this school treat me	.549
11:56	B15j	The way this school is run	.751

Coefficient alpha = .855

TABLE 2

Items in the School Opportunity Composite

Var. No.	Location	Item	Item-total correlation
11:57	C1a	Be with your friends and enjoy each other's company	.629
11:58	C1b	Do things that are challenging	.812
11:59	C1c	Win in competition with others	.818
11:60	C1d	Improve yourself--that is learn new things and do things better than you did in the past	.763
11:61	C1e	Have a lot of freedom to decide what you'll do	.641
11:62	C1f	Get to know adults	.728

Coefficient alpha = .792

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TABLE 3

Items in the Identification Composite

Var. No.	Location	Item	Item-total correlation
11:75	C5a	This school	.719
11:76	C5b	The classes you're in	.636
11:77	C5c	Clubs and activities in this school	.595
11:78	C5d	The student body of this school	.689
11:79	C5e	The kids in your neighborhood	.610
11:80	C5f	The community you're in	.712

Coefficient alpha = .732

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TABLE 4

Items Composing the Positiveness of
Authorities Composites

Item	Item-total correlation		
	Teachers	Counselors	Principal
strict (1) -- easygoing (7)	.547	.644	.707
unfair (1) -- fair (7)	.691	.864	.850
closedminded (1) -- openminded (7)	.707	.795	.819
helpful (7) -- unhelpful (1)	.673	.837	.737
friendly (7) -- unfriendly (1)	.716	.794	.723
Coefficient alpha	.691	.845	.829

TABLE 5

Items in the Positiveness of
Other Students Composite

Var. No.	Item	Item-total correlation
11:188	friendly (7) - unfriendly (1)	.774
11:189	helpful (7) -- unhelpful (1)	.763
11:190	uptight (1) -- easygoing (7)	.610
11:191	interested (7) -- uninterested (1)	.828
Coefficient alpha = .739		

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TABLE 6

The Change Self Composites

Items in the change physical self composite			
Var. No.	Location	Item	Item-total correlation
11:83	F1a	How tall I am	.731
11:85	F1c	How much I weigh	.785
11:87	F1e	My complexion	.719
11:90	F1h	How strong I am	.776
11:93	F1k	The way I look	.820
Coefficient alpha = .825			

Items in the change social self composite			
11:84	F1b	Myself as a student	.745
11:86	F1d	Myself as a leader	.588
11:88	F1f	Myself as a son	.826
11:92	F1j	Myself as a worker	.735
11:95	F1m	Myself as a friend	.761
11:97	F1o	Myself as an athlete	.717
11:98	F1p	Myself as I relate to girls	.759
Coefficient alpha = .876			

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TABLE 7

Var. No.	Location	Item	Item-total correlation
		Items in the initiative composite	
11:101	F2c	I take risks where I might fail	.520
11:111	F2m	I have fallen head over heels in love	.646
11:12	F2n	I am able to show concern and tenderness for a girl I like	.605
11:14	F2p	I share things with others	.511
11:119	F2u	I use the things I learn in school in other situations	.697
11:122	F2x	I suggest better ways to do things	.584
		Coefficient alpha = .756	
		Items composing the depression composite	
11:99	F2a	I have trouble concentrating on something until it is finished	.556
11:100	F2b	I feel that I can't live up to the expectations of others	.625
11:102	F2d	I wonder about the purpose of life	.618
11:103	F2e	I feel I am lacking in imagination	.705
11:104	F2f	I feel that I lack strong convictions	.703
11:105	F2g	I feel that I lack enthusiasm	.726
11:108	F2j	If I get angry and show it, I will feel sorry about it later	.567
11:109	F2k	I find myself getting depressed	.591
		Coefficient alpha = .784	

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TABLE 7

(cont.)

Items in the social problems composite		
F2o	I have a hard time making friends	.683
F2s	I am uncomfortable in a group of people	.599
F2v	I have problems meeting my responsibilities	.623
F2w	I have problems following other people's instructions	.633
F2y	I have problems working with other people	.736

Coefficient alpha = .664

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TABLE 8

Items in the Self Esteem Composite

Var. No.	Location	Item	Item-total correlation
11:158	I1	I am a useful guy to have around	.579
11:159	I2	I feel that I'm a person of worth at least as much as others	.641
11:160	I3	I feel that I can't do anything right	.357*
11:161	I4	As a person I do a good job these days	.587
11:162	I5	I am able to do things as well as most other people	.672
11:163	I6	I feel I do not have much to be proud of	.509*
11:164	I7	I feel good about myself	.548
11:165	I8	Sometimes I think I am no good at all	.682*
11:166	I9	When I do a job, I do it well	.478
11:167	I10	I feel that my life is not very useful	.523*

Coefficient alpha = .285

*Revised items

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TABLE 9

Table of F Tests for L1 Form Variables

Var. Location	Var. Name		Component F Test		
			School	Explor.	SxE
		df within	df=1	df=2	df=2
R4	Change physical self	95	4.54*	0.12	0.78
R11	Positiveness of principal	92	18.69*	1.60	0.55
E	School excellence	98	20.80*	6.18*	1.12
R3	Identification	98	1.67	5.32*	0.11
R6	Initiative	92	0.73	8.74*	0.69
R8	Social problems	92	2.26	5.45*	0.42
R13	Rosenberg self-esteem (modified)	85	0.55	6.17*	1.75
D	How satisfied with school	99	2.87	4.34*	1.26
R1	Desired school change	100	3.25	0.85	0.57
R2	Perceived opportunity	98	2.97	1.52	0.05
R5	Change social self	95	2.72	0.46	0.20
R7	Depression	91	0.42	2.88	0.62
R9	Positiveness of teachers			2.11	0.99
R10	Positiveness of counselors	88	1.04	0.52	0.40
R12	Positiveness of other students	96	0.00	1.97	2.14

*$p \leq .05$

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TABLE 10

Proportion of Variance
Accounted for by Significant Results
in the L1 Form Variables

Var. Location	Var. Name	Component (ω^2)* School	Explor.	SxE	Coefficient alpha
R4	Change physical self	.035	---	---	.825
R11	Positiveness of principal	.152	---	---	.829
E	School excellence	.147	.077	---	n.c.**
R3	Identification	---	.077	---	.732
R6	Initiative	---	.137	---	.756
R8	Social problems	---	.083	---	.664
R13	Self-esteem	---	.114	---	.285
D	How satisfied with school	---	.059	---	n.c.**
R1	Desired school change	---	---	---	.855
R2	Perceived opportunity	---	---	---	.792
R5	Change social self	---	---	---	.876
R7	Depression	---	---	---	.784
R9	Positiveness of teachers	---	---	---	.691
R10	Positiveness of counselors	---	---	---	.845
R12	Positiveness of other students	---	---	---	.739

*Estimated from combined random samples

**n.c. indicates not computed for single item variables

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TABLE 11

Correlation Matrix for Eighth and Ninth Grade Exploration

$r \geq .35$

(Ninth Grade in Parentheses)

Var. Location	Item	Wayne Strat.	Wayne Rand.	Thurston Strat.	Thurston Rand.	Total
R1	School change	-.31 (-.37)	(-.29)			(-.22)
R2	Opportunity		(.27)			(.21)
R3	Identification*	.43 (.56)	(.27)	.36 (.52)	.27 (.36)	.33 (.46)
R9	Teachers			(.27)		.20
R10	Counselors		.40	(.25)		
R11	Principal	.36 (.27)			.27 (.28)	.21 (.21)
R4	Change in physique					
R5	Change in roles					
R6	Initiative*	.34 (.44)	.42 (.54)	.46 (.49)	.29 (.44)	.38 (.47)
R7	Depression	-.35 (-.31)			(.25)	
R8	Social problems*	-.46 (-.47)	-.43 (-.54)	-.30 (-.43)		-.26 (-.36)
R12	Students		(.25)	.26 (.34)		(.21)
R13	Self esteem*	.44 (.61)	(.37)	.30	(.27)	.24 (.30)
	Satisfaction*	(.40)	(.35)		.28 (.40)	.21 (.31)
	Excellence*	.34 (.53)				(.22)

TABLE 12

Factor Matrix for the Total Sample

N=195, Loadings ≥.35

No.	Variable	Ft1	Ft2	Ft3	Ft4	Ft5	Ft6	Ft7	Ft8	Ft9	Ft10
1	School change	.55		.35					.38		
2	Opportunity	-.66									
4	Teachers	-.75									
5	Counselors	-.74									
6	Principal	-.64									
13	Like school 10th	-.37							-.70		
14	Best school 10th	-.39							-.55		
20	Initiative		.42		.36	.41					
27	QD+E - 8th		.64		.40						
28	QD+E - 9th		.61		.51						
29	Total T - 8th		.81								
30	Total T - 9th		.74								
18	Change in physique			.85							
19	Change in roles			.85							
21	Depression			.66							

TABLE 12 -- Continued

No.	Variable	Ft1	Ft2	Ft3	Ft4	Ft5	Ft6	Ft7	Ft8	Ft9	Ft10
10	Map 1 -Importance				.41				-.36		
15	Like school 8th				.50						
22	Social problems				-.63						
23	Self-esteem 10th				.68						
24	Self-esteem 8th				.65						
25	Marlowe-Crowne S.D.				.47						
26	Rotter I.E.				-.47		.54				
3	Identification					.43			-.38		
7	Know principal					.77					
11	If dated					.76					
8	Students (S.D)						-.78				
16	Best School - 8th							.41		-.52	
17	Duncan SES - 8th							.81			
12	How Unhappy								.76		
9	Map 1 - Friends									.81	
Percentage of variance accounted for by each factor		19.0	9.1	8.6	5.9	5.5	4.1	4.0	3.8	3.5	
											Total 63.7

Sum of variance accounted for by five "common" factors = 48.1

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TABLE 13

Summary of Factor Comparison Results for the Four "Common" Factors in Each Sample and Total Sample Analysis* (Correlations ≥ .30)

	TR1	TR8	TR4	TR9	WR2	WR6	WR1	WR4	TS1	TS2	TS3	TS8	WS1	WS2	WS3	WS4
WR2	-.94			-.33	1.0											
WR6		.54				1.0										
WR1			.91	.67			1.0									
WR4				.33				1.0								
TS1	-.73				Correlations Not Computed				1.0							
TS2	.37	.82								1.0						
TS3			-.78	-.47							1.0					
TS8		.41		.38								1.0				
WS1	Correlations Not Computed				-.86				-.90				1.0			
WS2					.33	-.66		-.39		-.86				1.0		
WS3							-.95				.86				1.0	
WS4							.40	-.45			.44	-.42				1.0
T1	.94				-.95				-.76				.91			
T2		.94				.67		.65		.93				-.99		
T3			-.95	-.52			-.97				.97				.98	
T4				.80				.71				.88				-.74

*Row and column designations: first digit is school; second digit -- R = random, S = stratified, T = Total; third digit is factor number in factor analysis

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TABLE 14

Information on "Harrold": A Medium Preference Subject

Who Am I		What Am I Like	
		Positive	Negative
1. Kind		Optimistic	Moody
2. Gentle		Honest	Quick tempered
3. Understanding		Kind	Envious
4. Affectionate		Practical	Often feel misunderstood
5. Quiet			
6. Shy		Sensitive	Stubborn
7. Moody			
8. Quick tempered sometimes			
9. Nice			
10. Loyal			

Factor I - School Evaluation		Factor II - Exploration	
School Change	50/35	Exploration Questionnaire Eighth Grade	39/33
Perceived Opportunity	10/18	Exploration Questionnaire Ninth Grade	29/34
Positiveness - teachers	19/21	Exploration - themes 8th	41/52
Positiveness - counselors	8/30	Exploration - themes 9th	70/62
Positiveness - principal	8/17	Initiative	33/26
School Satisfaction	9/6		
School Excellence	3/5		

Factor III - Change Self		Factor IV - Self Esteem	
Change Physical Self	16/18	Social Problems	18/17
Change Social Self	12/25	Self Esteem - 8th Grade	40/37
Depression	16/29	Self Esteem - 9th Grade	46/36
		Rotter's I.E. - 9th Grade	11/11
		Marlowe-Crowne S.D. - 9th	21/15

Factor V		Factor VI	
Identification	16/18	Positiveness - students	10/21

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TABLE 15

Information on "Dave": A High Exploration Preference Subject

Who Am I	What Am I Like	
	Positive	Negative
1. Friendly	Honest	Impatient
2. Honest	Independent	Disorganized
3. Clean	Happy	Noisy
4. Optimistic	Sensitive	
5. Concerned for others	Adventurous	
6.		
7.		
8.		
9.		
10.		

Factor I - School Evaluation		Factor II - Exploration	
School Change	8/31	Exploration Questionnaire Eighth Grade	51/34
Perceived Opportunity	22/20		
Positiveness - teachers	18/23	Exploration Questionnaire Ninth Grade	57/35
Positiveness - counselors	35/28		
Positiveness - principal	-/25	Exploration - themes 8th	94/56
School Satisfaction	8/7	Exploration - themes 9th	70/53
School Excellence	10/7	Initiative	

Factor III - Change Self		Factor IV - Self Esteem	
Change Physical Self	21/20	Social Problems	21/18
Change Social Self	31/28	Self Esteem - 8th Grade	---
Depression	31/30	Self Esteem - 10th Grade	32/35
		Rotter's I.E. - 9th Grade	9/10
		Marlowe-Crowne - 9th Grade	19/16

Factor V		Factor VI	
Identification	18/19	Positiveness - students	28/21

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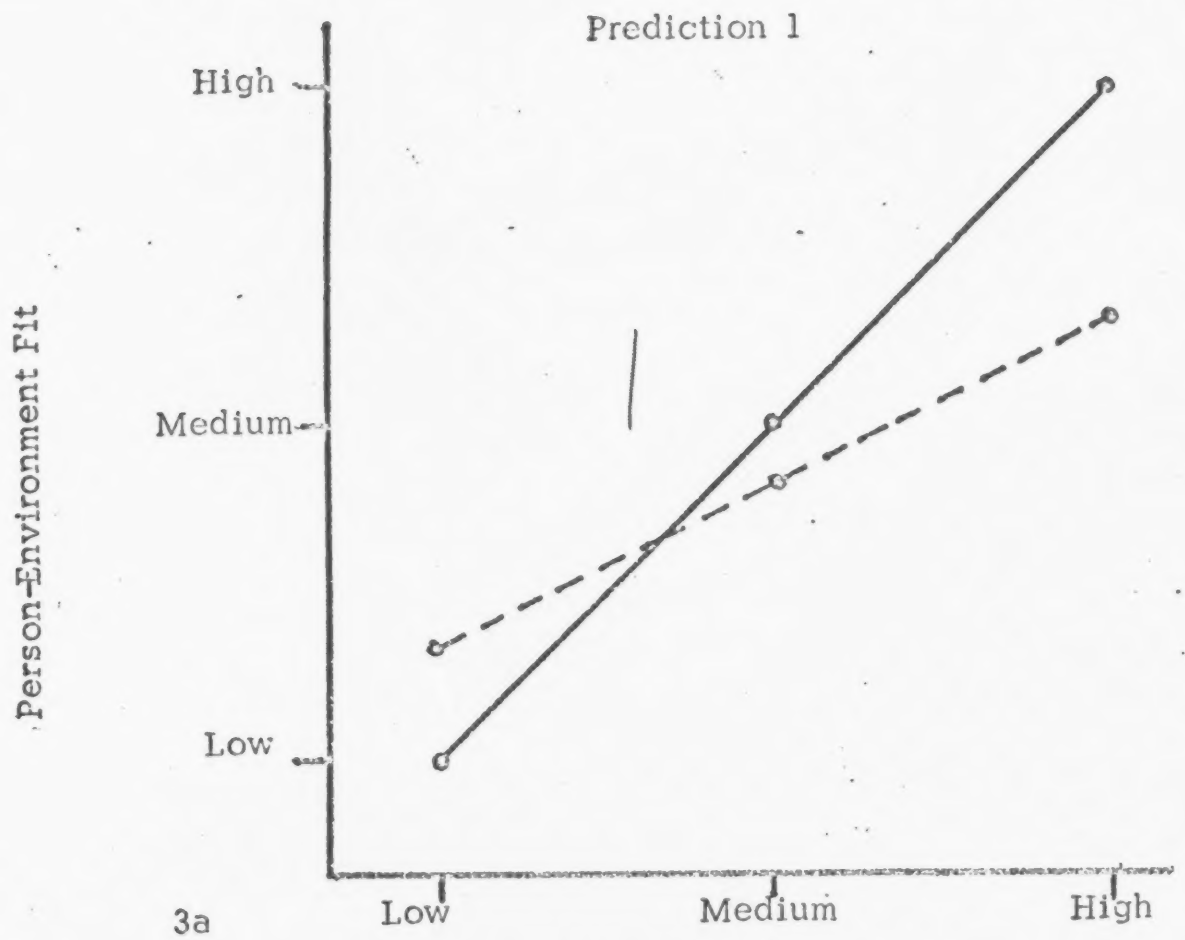

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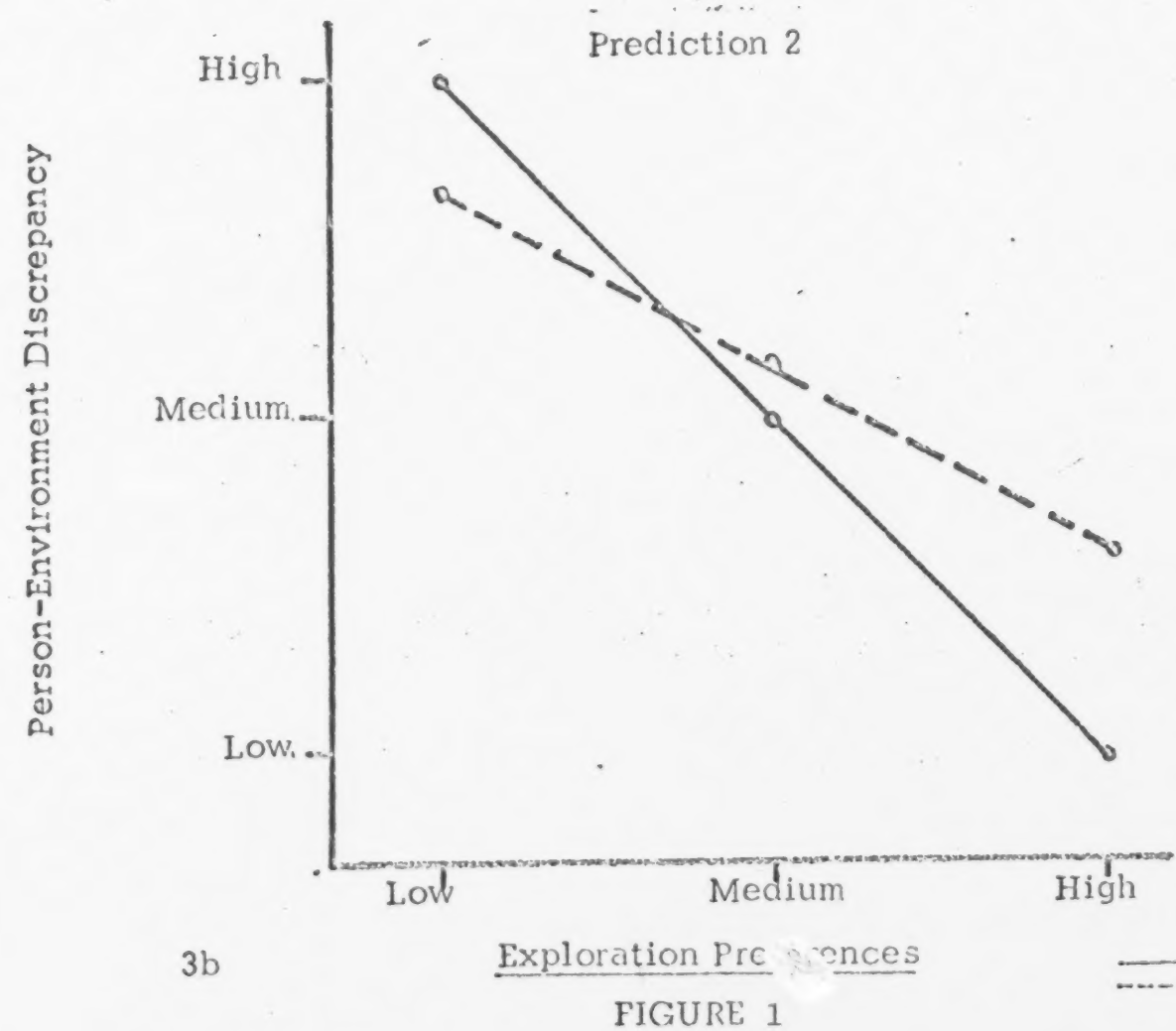

3b

FIGURE 1

General Predictions for Person-Environment Fit and Discrepancy

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The Social Environments of Two Suburban High Schools: Some Background Data[1]

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Our project is investigating ways that high school boys vary in how they adapt to different high school environments. The five papers to follow are the reports of four studies conducted during the past school year in two high schools. The fifth (the work of Dave Todd) was conducted in the 1969-1970 school year in one of these schools. These studies involved the use of different samples of students and different methods of investigation.

In order to clarify these papers and how they relate to each other, I would briefly like to describe the two high schools in which they were conducted and then describe the differing aspects of the studies themselves.

A Description of the Two High Schools

The studies to be reported were conducted in Wayne Memorial High School, located in Wayne, Michigan, and Lee M. Thurston High School, located in Redford Township, Michigan. These two high schools are very similar -- probably much more similar than they are different. They are both all white high schools serving suburban areas about equal distance (15-20 miles) from the center of Detroit. They have very similar sized

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[1]Paper presented at the Symposium "Methods and Styles of a Longitudinal Study of High School Students," Seventy-Ninth Annual Convention, American Psychological Association, Washington, D. C., September 7, 1971.

ED 006 846

student enrollments and have about the same sized faculties. Last year Wayne High School had a student enrollment of 1,963, a faculty of 95, with a classroom-teacher/student ratio of about 1 to 20.7. Thurston High School had a student enrollment of 2,126, a faculty of 99, and a classroom ratio of 1 to 21.4.

In most ways, including their academic programs, the structure of their staff salaries and increasing student enrollments, and in gross demographic terms, the schools are similar.

The Wayne High School Community

Wayne, Michigan, is a small town dating back to the middle of the past century. It has a three to four block long downtown business district with a Main street. The high school is located several blocks from this district. The nature of the community changed greatly by the growth of Detroit as a manufacturing center, and particularly by the Second World War.

During World War II, Wayne experienced a great influx of white labor force, largely from the South. These laborers came to work in the defense plants. This expansion continued after the war and five large manufacturing plants are now located in Wayne. A large housing project built during World War II is within the school district. The Wayne community tends to have a large proportion of blue collar, skilled and semi-skilled heads of households. Geographic mobility is fairly high in the community with many families having immigrated from other states and communities. This trend still continues to a fair extent and most of the students who transfer out of the Wayne school system tend to move with their families to other industrial areas of Michigan or return to the South.

The Physical Environment of Wayne High School

Wayne High School (see Figure 1) was built in 1952. The main building of three stories looks quite utilitarian. Its long, high-ceilinged halls, although by no means unattractive, do not radiate an architectural warmth. It has two student cafeterias (one in the basement) and a student lounge with couches and a T.V. set. Its teachers lounges could not be described as posh. The industrial arts building is a separate building connected to the main building by a roofed walkway as is another small classroom building called the Annex. In 1957 a very modern octagonal-shaped auditorium was constructed, and a swimming pool was added to the gym. This complex was considered the achievement of the school band director who is now the principal of Wayne High School. All in all, the high school is fragmented and complex. Quite a few of the tenth grade boys we interviewed and obtained data from this past year complained of the problem of getting from one place to another in the time allotted between classes.

The Thurston High School Community

Thurston High School draws its students from the southern half of Redford Township which is primarily a residential suburb intersected both north, south, east and west by expressways or heavily travelled thoroughfares lined with restaurants and other small businesses.

A grant proposal submitted by the Citizens' Committee on Economic Opportunity reports that the area has a "limited amount of industry but is generally considered as a residential community with most residents earning their livelihoods in other areas." Most of the area has grown up since World War II with rapid growth in new housing experienced since 1960, although "certain sections have had homes and residents going back

to 1920 and further." Typically the area has experienced immigration from Detroit as more upwardly mobile whites left the core city and moved to the suburbs. A study conducted in recent years indicates a slowing down of this trend with the community becoming more stable and residents staying longer in the community.

The Physical Environment of Thurston High School

Thurston High School is a very attractive high school which was built in 1957 but looks more modern than that (see Figure 2). In design it is two large connected squares, each square with an open courtyard in the center. One wing only has a second level over it. Its hallways are low ceilinged and overall the school feels architecturally warm, modern and spacious. There are two large comfortable teachers' lounges (as compared to Wayne High School's at least) but there is no student lounge. Although the Industrial Arts Building is in a separate building, the school is quite contiguous and homogeneous.

Enrollment Increase

A problem experienced by both Wayne and Thurston High Schools is the continuing increase in enrollment at their schools. From the 1965-1966 school year to the 1970-1971 school year, Wayne's enrollment increased by 10.6 percent and Thurston's by 20.2 percent.

Curriculum of the Two High Schools

Although the curriculum of both schools is somewhat similar, there are some significant differences.

1. Wayne High School, unlike Thurston, uses a three-tracked ability grouping system.

2. Wayne High School places a greater emphasis on business and vocational courses than Thurston, with particular emphasis on commercial

and business. Thurston places a stronger emphasis on academics.

a. Wayne High School initiated an experimental program this past school year in which Wayne students are no longer required to take tenth grade English courses but may instead elect from a variety of courses which they then attend with juniors and seniors.

3. A greater percentage of Thurston graduates go on to college or university than do Wayne graduates. Of the 1970 graduating class, 57.5% of the Thurston students went on to college, as compared to 42.7 percent of the Wayne students.

The Student Bodies at Wayne and Thurston

There are differences between the student bodies at Wayne and Thurston which have been observed. In 1969 the research project administered questionnaires to from 96 to 100 percent of eighth grade boys in four junior high schools, two each of which feed into Wayne and Thurston High Schools. These data were used to select the longitudinal sample which is being followed through high school. This sample of boys will enter the eleventh grade this fall. Questionnaires were administered to these boys in the ninth grade (when they were still in junior high) and again in the first and second semesters of the tenth grade in the two high schools.

The data collected from these boys in the eighth and ninth grades demonstrated some significant differences between the boys before they entered the two high schools. Most of these findings are consistent with the differences between the two communities noted earlier. The boys from the Thurston junior high schools come from families with significantly higher socioeconomic status ($\bar{X}$ Duncan SES of 48.9) than the boys from the Wayne junior high schools ($\bar{X}$ Duncan SES of 35.1). 53 percent of the boys from the Thurston junior high schools reported fathers having white

collar occupations, and 77 percent of the boys from the Wayne junior highs reported fathers of blue collar occupations. The Thurston boys come from families where the fathers have significantly higher educational levels than the fathers of the Wayne boys. The Wayne boys come from larger families, reporting a significantly larger number of siblings living at home. Also, a significantly larger proportion of the Wayne boys reported having lived in places in Michigan outside the Detroit area, and having lived in states outside of Michigan.

The scores on the U.S. Employment Service Nonverbal Matrices I.Q. Test, included in the eighth grade questionnaires, showed that the boys from the Thurston junior high schools scored significantly higher on this test than the boys from the Wayne junior highs.

Findings at the Tenth Grade (Students)

Some other salient and significant findings from the tenth grade assessment are:

1. Wayne students report a greater identity with their social groups than do the Thurston students. This is particularly significant in reporting how much they feel a part of the student body of their school.

2. Wayne students report feeling that students, the parents of students, and they themselves have more say in how their school is run than do Thurston students as is illustrated on Figure 3.

3. Wayne students report enjoying and being more involved in classes and with teachers, than do Thurston students.

4. A greater proportion of the Wayne students report being on school junior varsity or varsity sports teams than do Thurston students.

5. The Wayne students report on semantic differentials more feelings of positiveness toward their teachers and the principal of their school than do the Thurston students.

6. Wayne students report perceiving their school environment as less controlling and restrictive than do Thurston students.

7. Wayne students rank their school significantly higher than Thurston students when asked to rank their school between the best school they can imagine and the worst school they can imagine.

Findings: Tenth Grade (Faculty)

During the spring of 1971 we distributed questionnaires to the administrative, teaching staffs and counselors at Wayne and Thurston. Of these anonymous self-report questionnaires, there was a return of 85 percent completed forms from Wayne, and 81 percent completed forms from Thurston.

The results showed several salient and statistically significant differences between the two schools:

1. A greater percentage of the Wayne staff live within their school district than do the Thurston staff, 26.4 percent of the Wayne staff as compared to 7.9 percent of the Thurston staff.

2. The Wayne staff reports being more satisfied with their jobs than do the Thurston staff, and as seen in Figure 4, the Wayne staff reports being happier with how well the principal, assistant principals, and the faculty, the counselors, and other school workers are doing their jobs in the school.

3. The Wayne staff perceives the principal, assistant principals, counselors, students, and student government as having more influence in how the school is run than does the Thurston staff. The Thurston

staff, however, perceives that the parents of students have more influence in how their school is run than do the Wayne staff, as illustrated in Figure 5.

4. There are striking differences to be noted between how the principals of the two schools are perceived by both their staffs and students. The principal at Wayne was a music teacher and band director for 14 years in that school before becoming the principal six years ago.

This is quite a different situation than at Thurston where there have been several different principals over the past several years and where the present principal has just finished his first full year in that position. The differences observed in the data, however, seem to reflect more than just a difference in length of tenure.

As already noted in Figure 5, the Wayne principal is seen by his staff as having more influence and being more important in the operation of the school than the Thurston principal is by his staff. Our findings also show that a larger proportion of the Wayne staff turns to their principal for help and advice, when needed, than the Thurston staff does to their principal. The perceptions of the principals by the sample tenth grade students is somewhat different than that of the staffs. As already mentioned, the students at Wayne report more positive feelings toward their principal than do the Thurston students. In addition, it is interesting to note, on Figures 6a and b, that the Wayne students see their principal as having significantly less influence than the staff sees him as having. Altogether, these differences seem to indicate a difference in the style of performance of the principal's roles at the two schools.

5. One further difference between the staff may be noted on Figure 7, which shows that although the staff at Thurston reports feeling that students should have more independence than does the staff at Wayne, the staff at Wayne is in greater agreement among themselves on this issue.

Faculty and Student Relationships

There are indications that there also may be greater agreement in perceptions between students and staff at Wayne than at Thurston. There is, for example, greater agreement between the students and the staff at Wayne High School in their perceptions about the amount of influence various people and groups have in the operation of their school.

Figure 6a illustrates that the students and staff at Wayne disagree to a significant degree only about the amount of influence that the principal and student government have in how their school is run. There seems to be great agreement about how much influence the assistant principals, teachers, counselors, students, and the parents of students have.

Figure 6b shows that at Thurston the staff and students disagree to a significant or near significant extent on the amount of influence that all of these groups, except for teachers, have in how their school is run.

It would be misleading, however, to think that there are not large areas of disagreement between students and staff at both high schools. Figures 6a and b show that there is a significant difference between the perceptions of the staff and students at both high schools about how much influence the student government has in the operations of their schools, and Figure 8 shows that the students at both high schools feel that students should have a far greater amount of independence than do staffs at the schools.

Sampling and Methodology

In May 1969 data were collected from 96-100 percent of eighth grade boys in two feeder junior highs for Wayne High School and Thurston High School. Self-report, thematic, and sociometric questionnaires were administered in groups of 20-40, in two hour administration sessions. Six questionnaires were administered in two waves of data collection, three in each wave, with two weeks between wave one and wave two. From these data, stratified samples of high, medium, and low explorers were selected on the basis of exploration scores, and random samples were selected within each junior high.

During the spring of 1970, the cohort being in the ninth grade, data were collected to validate instruments and measures. The boys in these selected samples entered Wayne and Thurston High Schools in September of 1970 and constitute our project's longitudinal sample (see Figure 9).

A brief description of the sample procedures, design and methodological procedures used for the studies to be reported in this symposium are illustrated on Figure 10. The bold numbers on Figure 15 indicate the order in which the papers to follow will be read.

First Paper: Phil Newman

The first paper, to be presented by Philip Newman, is entitled "Persons and Settings: A Comparative Analysis of the Quality and Range of Social Interaction in Two Suburban High Schools."

Questionnaires were administered to approximately one half of the classes in each school in December, 1970. A representative sample of the completed questionnaires was then randomly selected by school, sex, and grade, with an N of 334 at Wayne, and 363 at Thurston. Phil will also report on some of the data collected by the project from the staffs

of the two high schools last spring.

Second Paper: Dave Todd

The second paper, to be presented by David Todd, is entitled "Helping Behavior in Two Peer Cultures of a High School."

The sample for this study was drawn from selection questionnaires which were administered to 70 percent of the boys in the senior class of Thurston High School in the spring of 1970. Selection on predetermined criteria narrowed the sample to 42 senior boys labeled "citizens" and 64 boys labeled as "tribe members." From these, 10 "citizens" and 10 "tribe" members were randomly selected. The bulk of the data was obtained through an intensive study of eight citizen and nine tribe boys who kept written log reports for two days, followed by a detailed interview discussing the logs.

Third Paper: Dan Edwards ✓

The third paper, to be presented by Daniel Edwards, is entitled "The Interaction between Personal Preferences and the High School Environment: Prediction and Description from Tenth Grade Students' Self Report."

A one hour self report questionnaire was administered to the project's longitudinal sample at Wayne and Thurston High Schools at the end of their first semester in high school. Data were collected over a two week period, administering the self report measures to groups of 20 to 30 boys at a time.

Fourth Paper: George Gilmore

The fourth paper, to be presented by George Gilmore, is entitled "Exploration, Identity Development and the Sense of Competency: A Case Study." The subjects for this study consisted of nine boys at each high school (3 high, 3 moderate and 3 low explorers) randomly

selected from the stratified sample of the longitudinal study. These boys were individually interviewed on a highly structured interview schedule which included highly structured items for statistical analysis and very unstructured items for use in a case study approach. The interviews were given during the fall semester of the tenth grade year and again in the spring semester.

Fifth Paper: Barbara Newman

A fifth paper, to be presented by Barbara Newman, is entitled "Interpersonal Behavior and Preferences for Exploration in Adolescent Boys: A Small Group Study." The subjects for this study consisted of one half of the stratified sample used in George Gilmore's case study: 3 high, 3 moderate and 3 low explorers at Wayne and Thurston. The design of the study consisted of:

1. Subjects were given pregroup questionnaires.
2. A series of 8 discussion groups with the 9 boys in each school was conducted over a four week period in February, 1971. Two observers coded verbal and nonverbal behavior during each discussion group.
3. Following each discussion group the boys completed a post-session questionnaire.
4. One month following the end of the series of discussion groups the boys completed a post group questionnaire.

FIG. 1

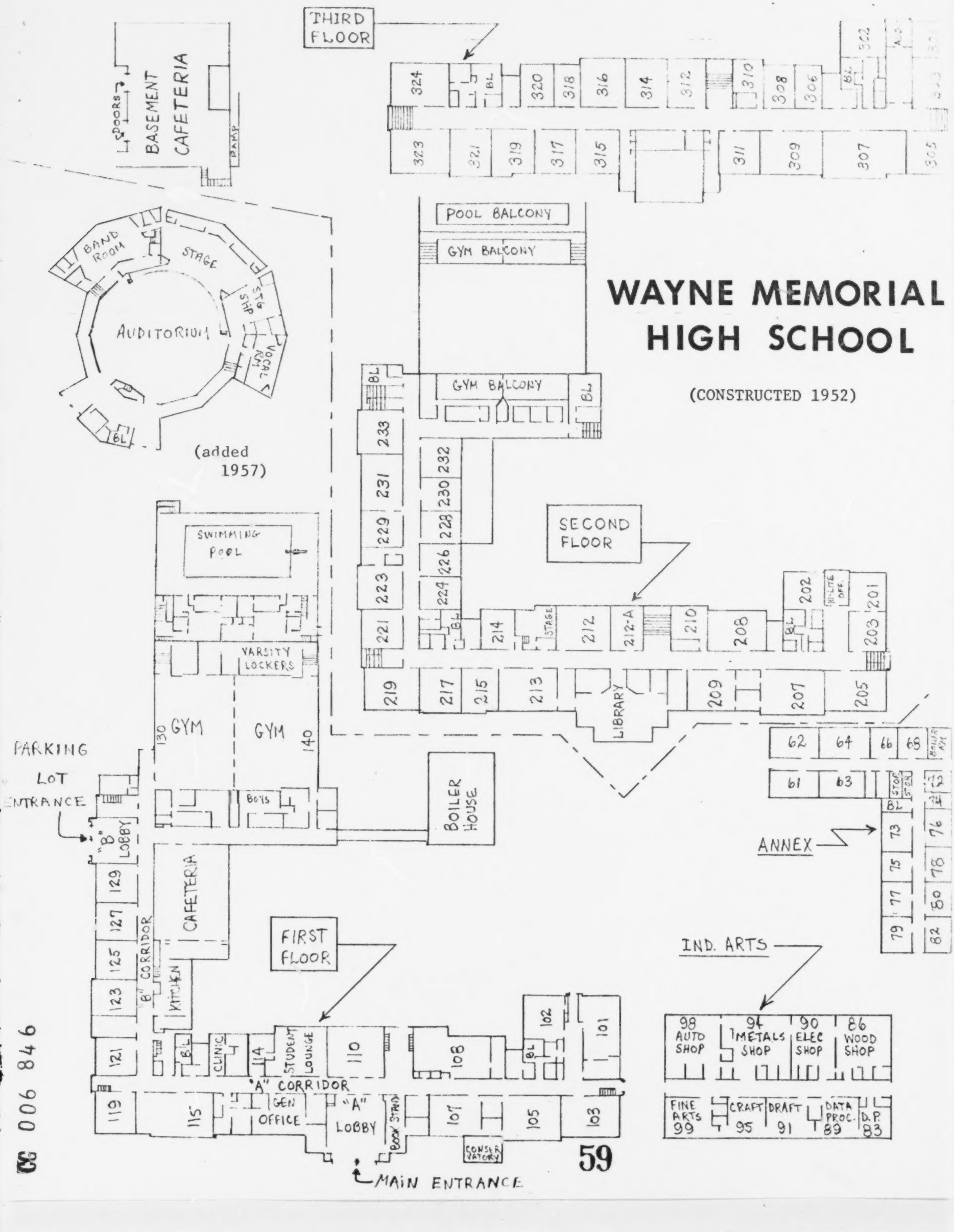

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FIG. 2

LEE M. THURSTON HIGH SCHOOL

(CONSTRUCTED 1957)

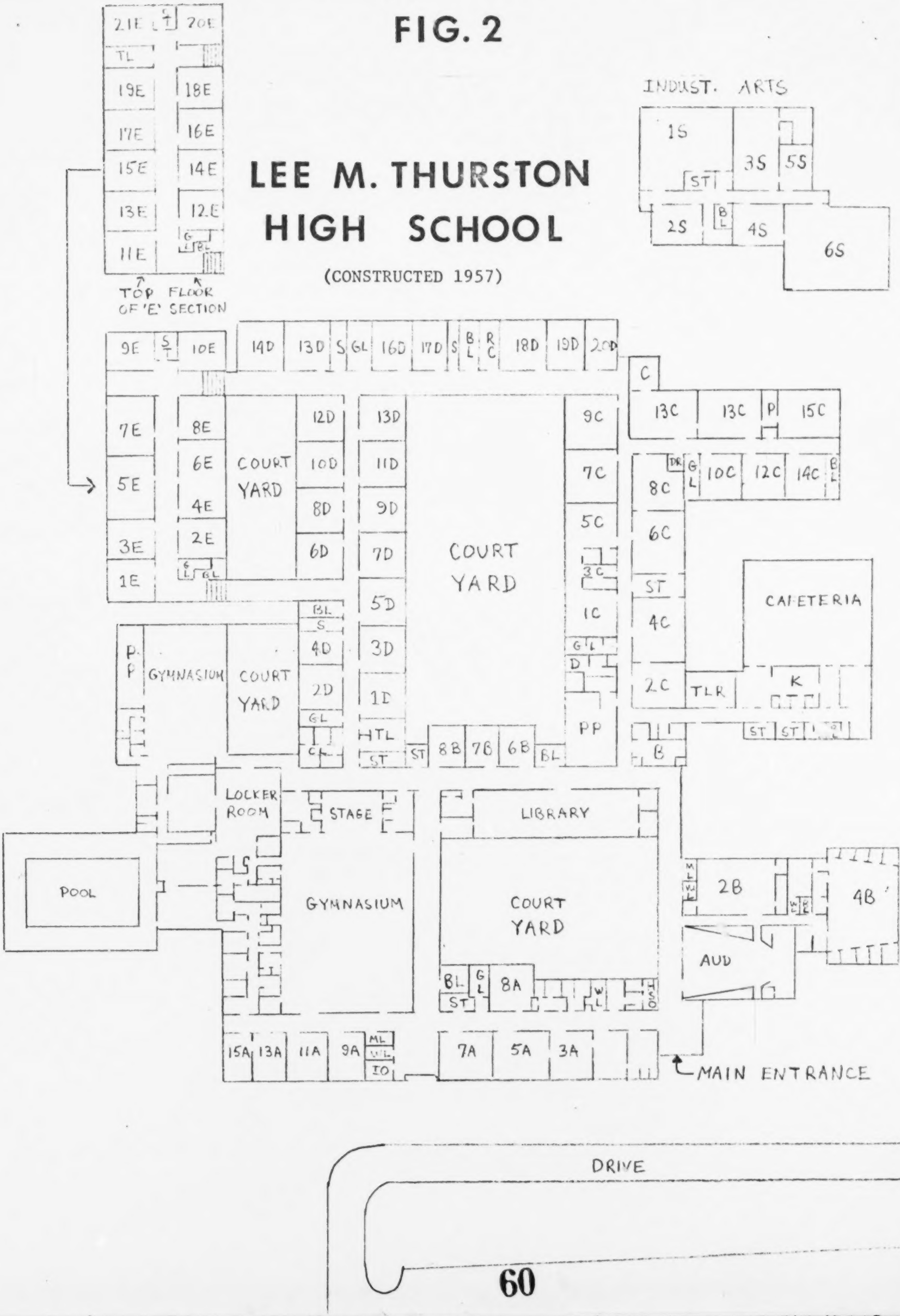
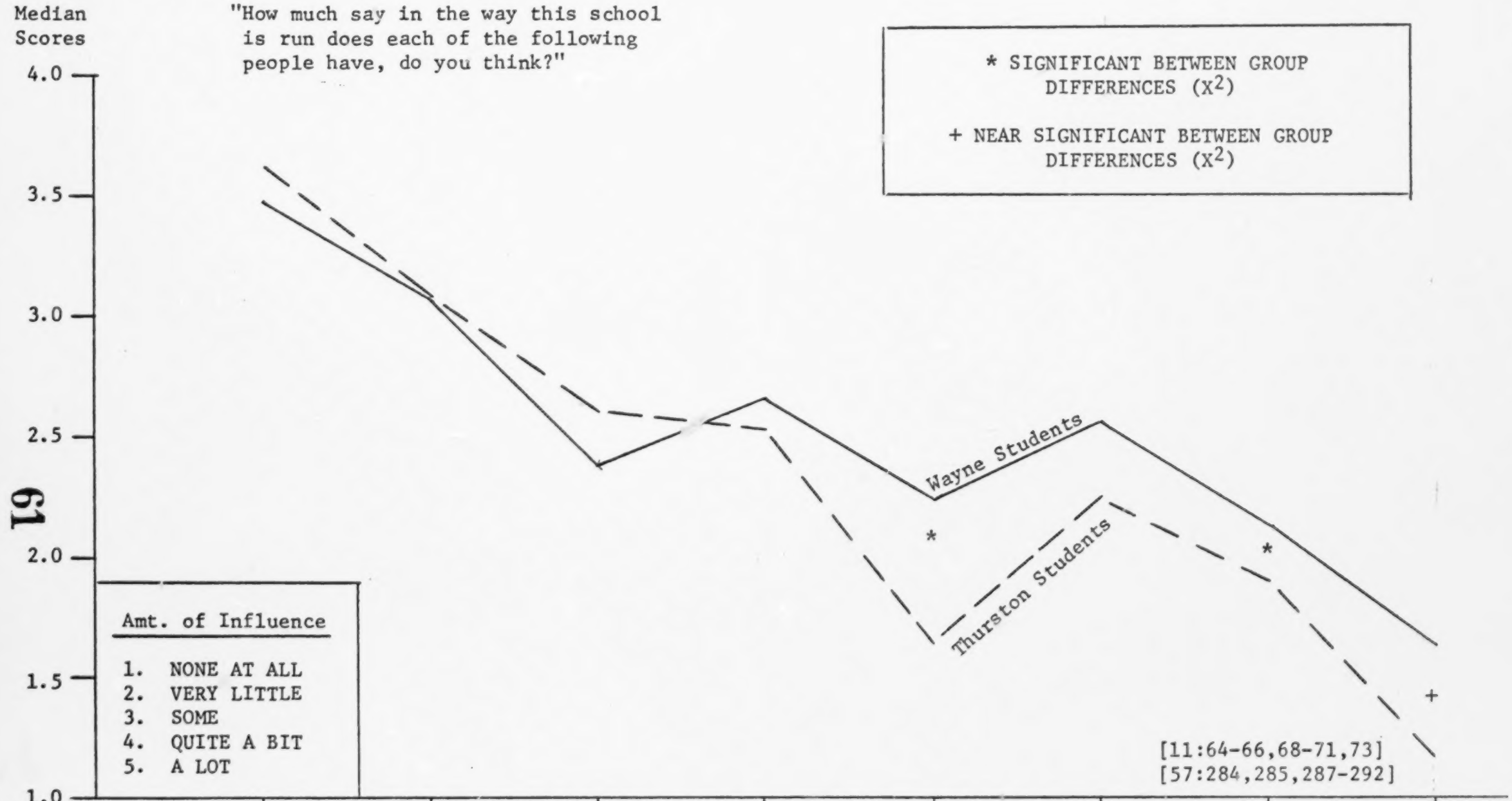


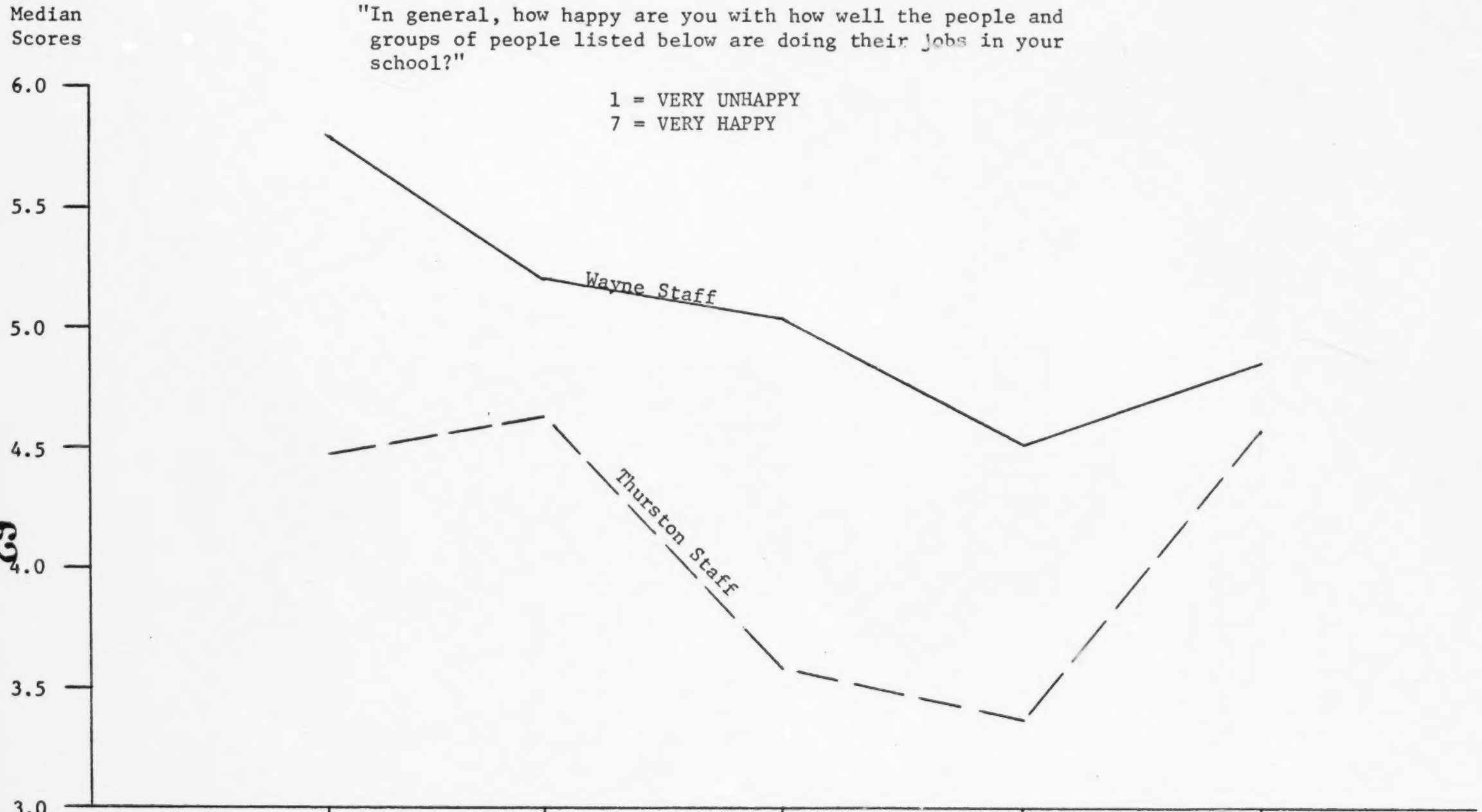
FIG. 3

Wayne boys report that "STUDENTS," "PARENTS OF STUDENTS," and they themselves have more say in how their school is run than Thurston boys.



BETWEEN GROUP X^2 =					10.365		10.958	6.852
D.F. =					4		4	4
SIG. LEVEL =	N.S.	N.S.	N.S.	N.S.	$<.05$	N.S.	$<.05$	.20

FIG. 4 The Wayne Staff is happier with how well all groups are doing their jobs in their school.

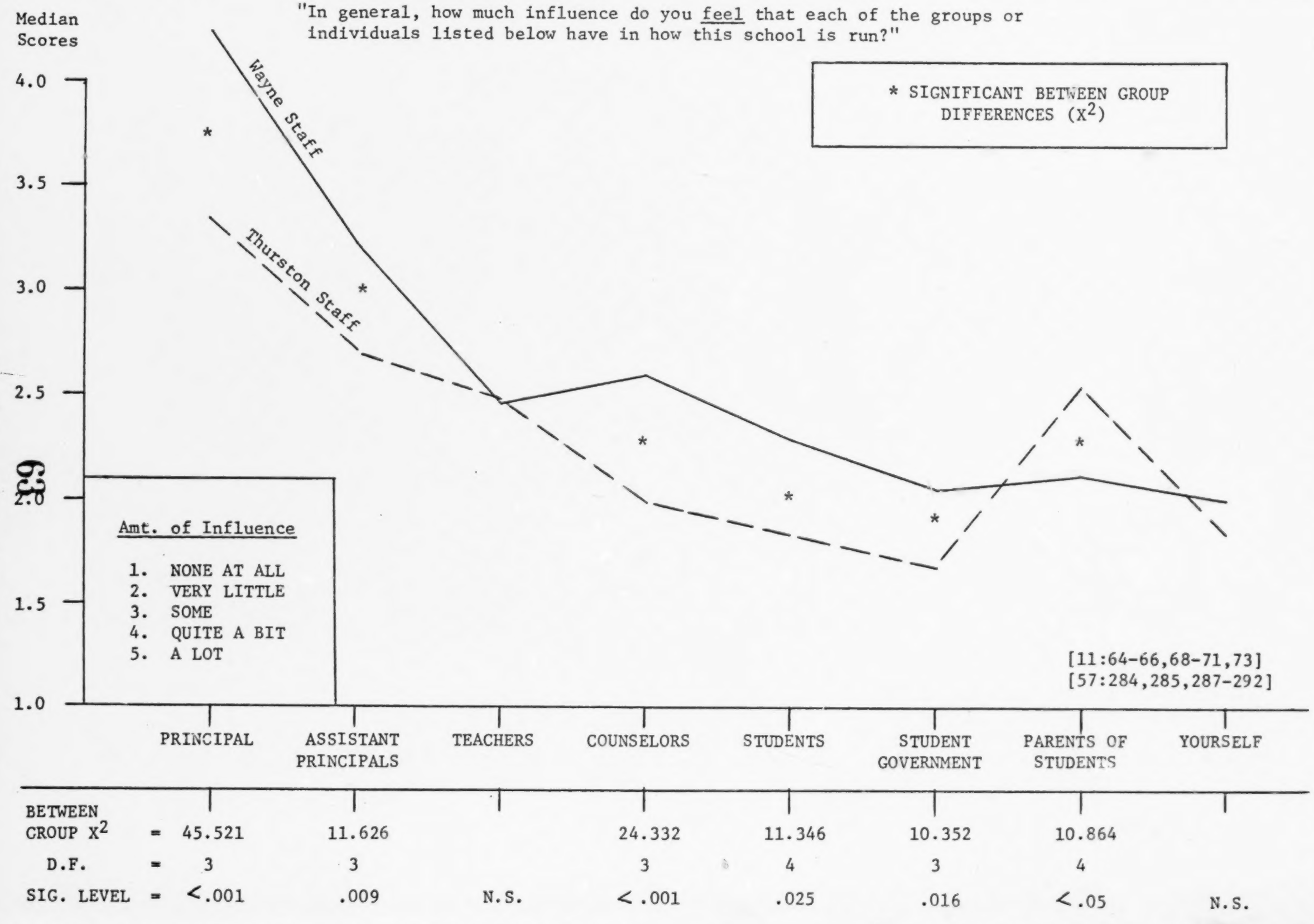


BETWEEN GROUP X^2	=	40.96	13.724	48.052	24.656	9.162
D.F.	=	4	5	4	5	4
SIG. LEVEL	=	< .0001	.0115	< .0001	.0002	.0572

[57:317-321]

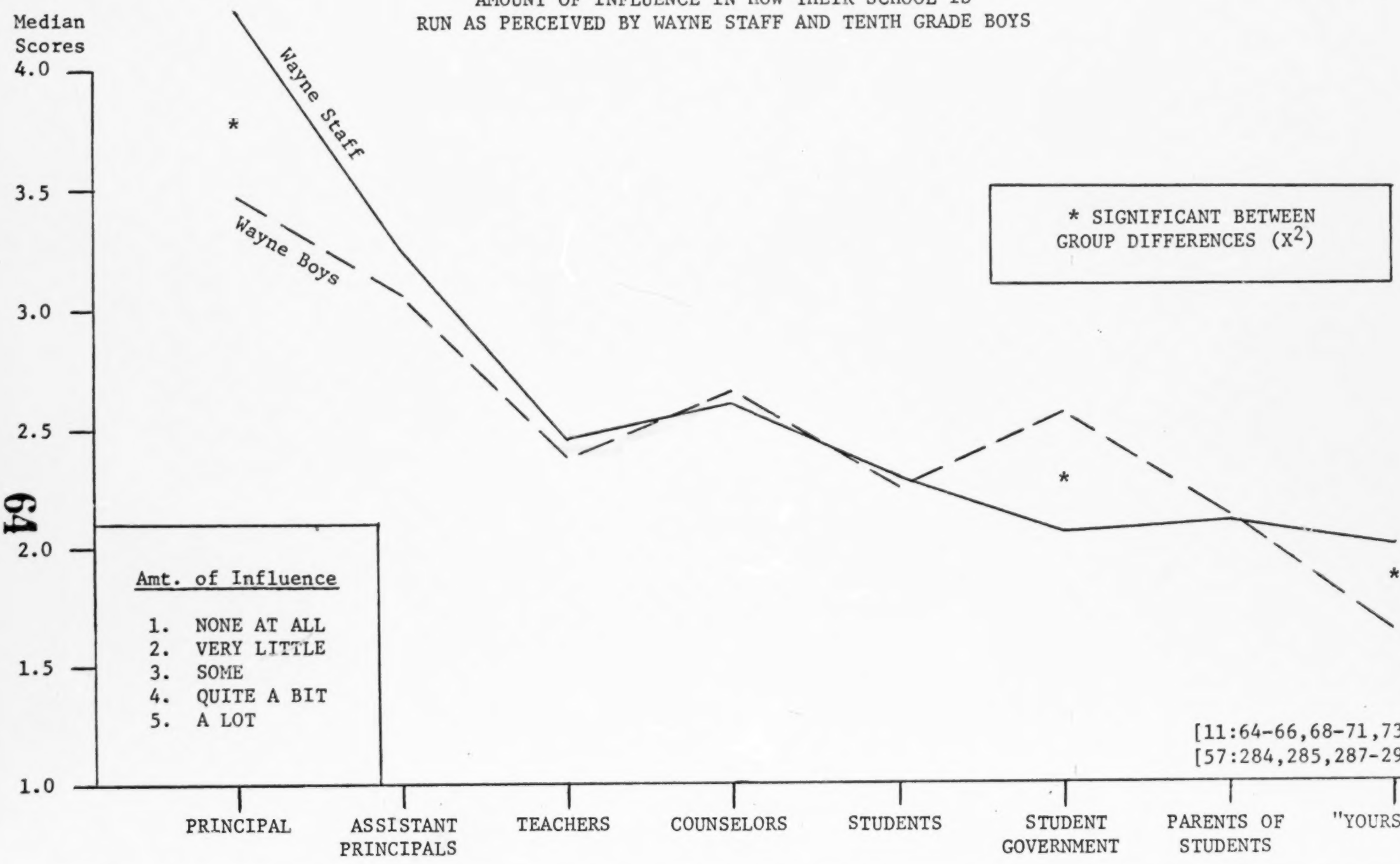
FIG. 5

Wayne Staff reports the "Principal," "Asst. Principals," "Counselors," "Students" and "Student Government" have more influence in how their school is run; Thurston Staff reports that "Parents of Students" have more influence in how their school is run.



BETWEEN GROUP X^2 =	45.521	11.626		24.332	11.346	10.352	10.864	
D.F. =	3	3		3	4	3	4	
SIG. LEVEL =	$<.001$	.009	N.S.	$<.001$	.025	.016	$<.05$	N.S.

FIG. 6A The Wayne Staff perceives about the same amount of influence in school operations as their 10th grade boys, for all groups except the principal and student government.



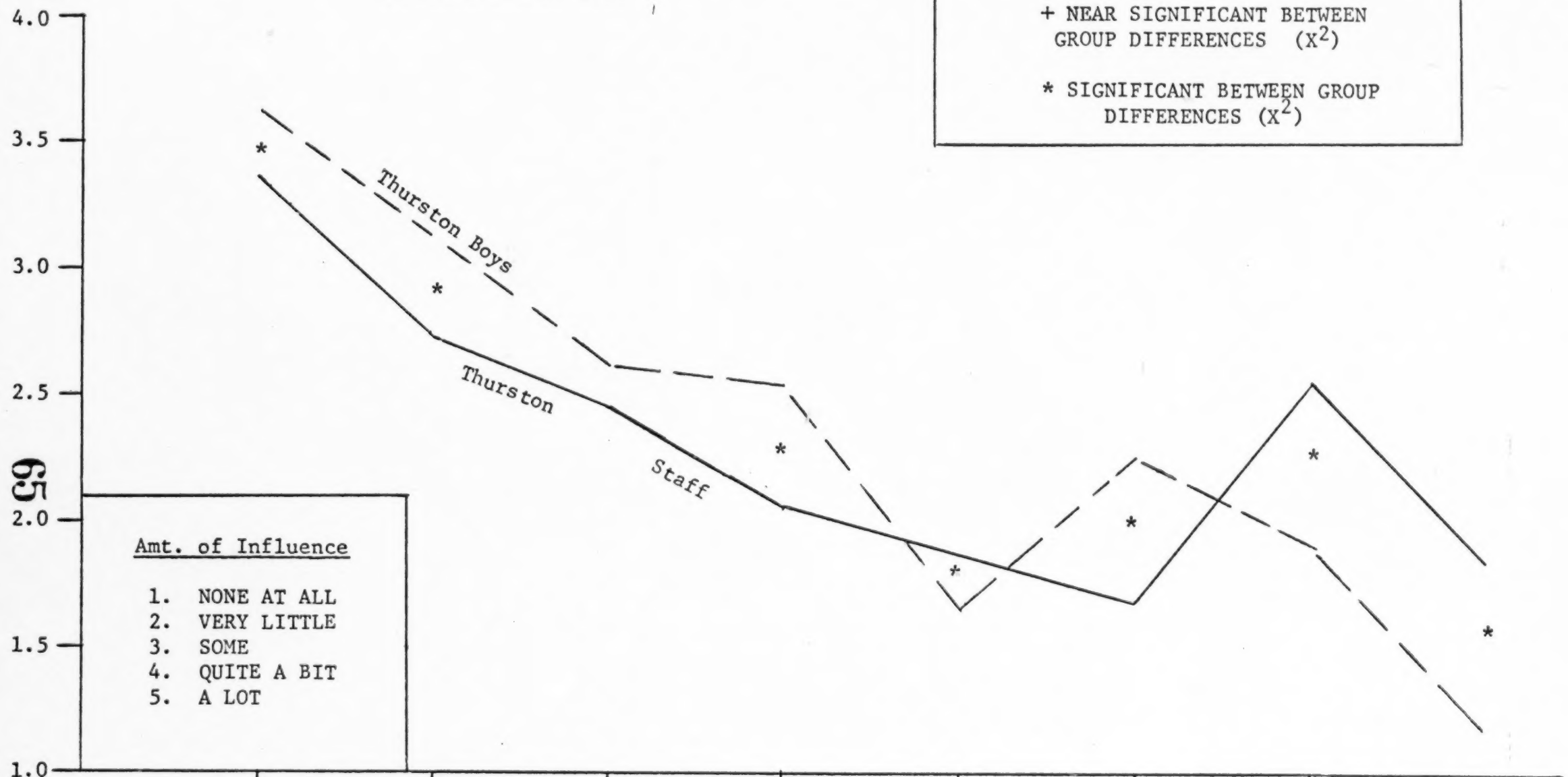
	PRINCIPAL	ASSISTANT PRINCIPALS	TEACHERS	COUNSELORS	STUDENTS	STUDENT GOVERNMENT	PARENTS OF STUDENTS	"YOURSELF"
BETWEEN GROUP X^2 ==	36.41					14.117	15.243	16.631
D.F. =	2					3	4	4
SIG. LEVEL =	<.001	N.S.	N.S.	N.S.	N.S.	.002	.004	.002

FIG.6B

The Thurston staff perceives a significantly or near-significantly different amount of influence in school operations than their 10th grade boys, for all groups except teachers.

[11:64-66,68-71,73]
[57:284,285,287-292]

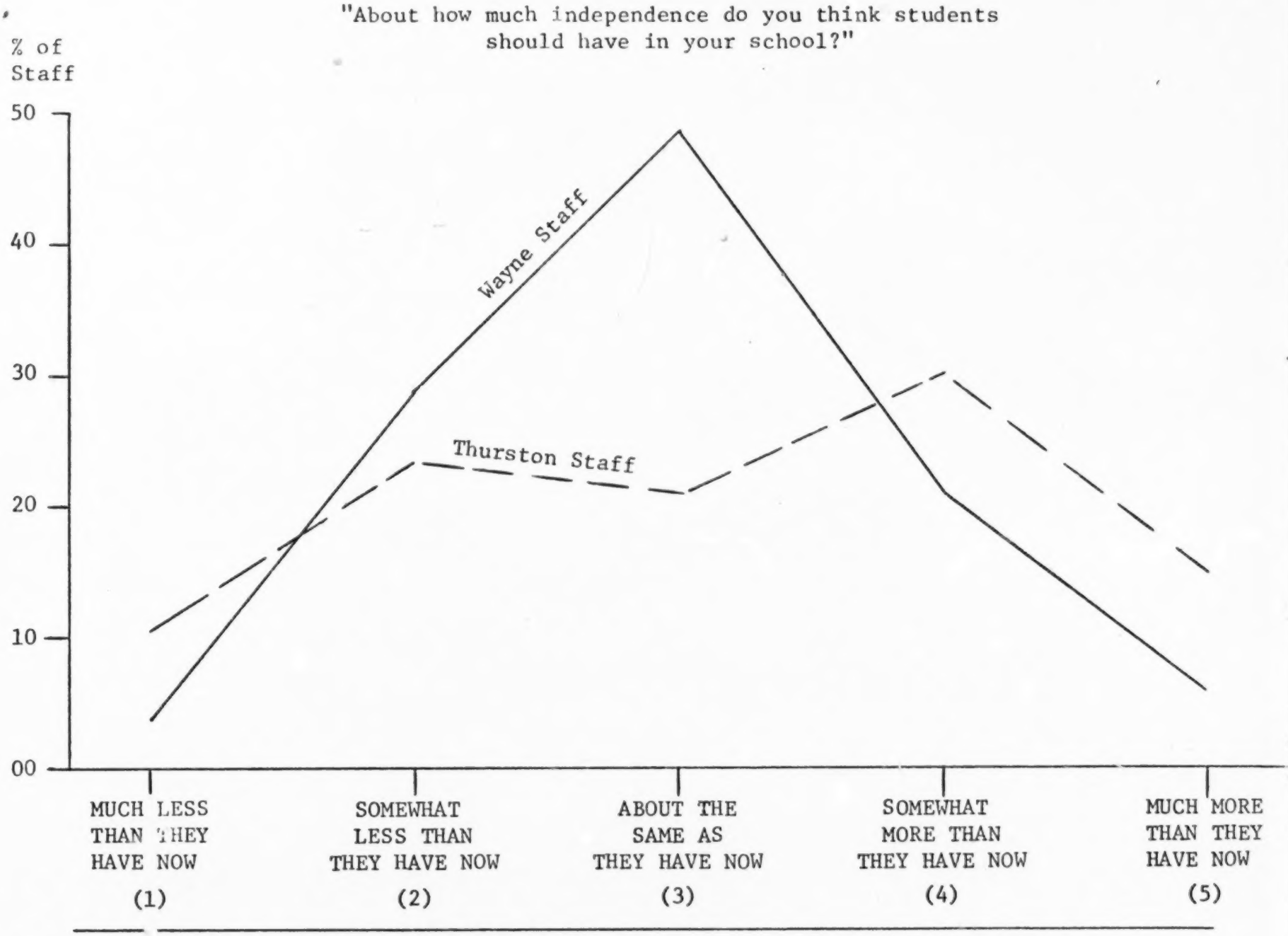
AMOUNT OF INFLUENCE IN HOW THEIR SCHOOL IS RUN AS PERCEIVED BY THURSTON STAFF AND TENTH GRADE BOYS



BETWEEN GROUP X^2	=	6.36	6.12		21.602	10.315	18.549	27.087	38.411
D.F.	=	3	3		3	4	3	4	4
SIG. LEVEL	=	.095	.106	N.S.	.0001	.032	.0003	< .0001	< .0001

FIG. 7 The Thurston staff feels that students should have a greater amount of independence than the Wayne staff; but the Wayne staff has a greater degree of agreement among themselves.

[57:100]



	Wayne	Thurston
MEDIAN SCORE =	2.46	2.80
N =	84	86

X^2 (4) = 13.275

SIG. = .01

FIGURE 8

The boys at both schools feel that students in their school should have more independence than do the staffs of their schools. [57:100+11:45]

	Wayne Staff		Wayne Boys	
	f	%	f	%
1. Wayne staff and tenth grade boys:				
1. MUCH LESS THAN NOW	3	(3.6)	3	(3.2)
2. SOMEWHAT LESS THAN NOW	24	(28.6)	4	(4.2)
3. ABOUT THE SAME AS NOW	34	(48.5)	45	(47.4)
4. SOMEWHAT MORE THAN NOW	18	(21.4)	35	(36.8)
5. MUCH MORE THAN NOW	5	(6.0)	8	(8.4)
MEDIAN SCORES	2.46		2.91	

X^2 (4) = 21.367 SIG. = .0001

	Thurston Staff		Thurston Boys	
	f	%	f	%
Thurston staff and tenth grade boys:				
1. MUCH LESS THAN NOW	9	(10.5)	4	(4.2)
2. SOMEWHAT LESS THAN NOW	20	(23.3)	3	(3.2)
3. ABOUT THE SAME AS NOW	18	(20.9)	36	(37.9)
4. SOMEWHAT MORE THAN NOW	26	(30.2)	43	(45.3)
5. MUCH MORE THAN NOW	13	(15.1)	9	(9.5)
MEDIAN SCORES	2.80		3.12	

X^2 (4) = 25.018 SIG. = < .0001

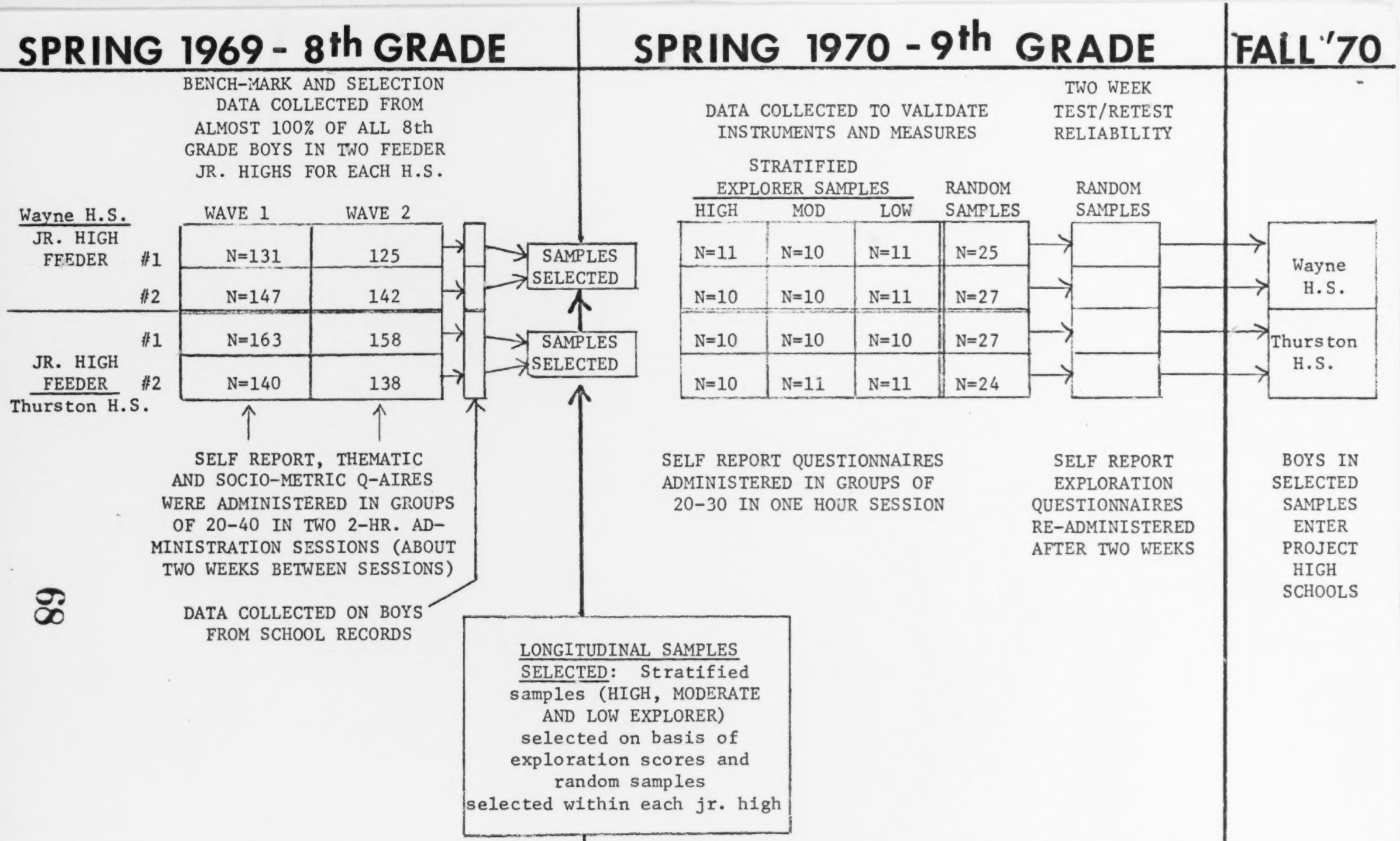


FIG. 9 PROJECT LONGITUDINAL SAMPLES

SPRING 1970

9th GRADE LONGITUDINAL SAMPLE BOYS

	STRATIFIED SAMPLES High	Mod	Lo	RANDOM SAMPLE
Thurston Wayne H.S.	N=11	N=10	N=11	N=25
	N=10	N=10	N=11	N=27
H.S.	N=10	N=10	N=10	N=27
	N=10	N=11	N=11	N=24

PROJECT LONGITUDINAL SAMPLES

70% THURSTON H.S. SENIOR CLASS BOYS

SELECTION QUESTIONNAIRES ADMINISTERED IN GROUPS N=224

↓

SELECTION OF CRITERIA

↓

"TRIBE" (10)	"CITIZENS" (10)
LOGS KEPT FOR 2 DAYS - N=8	LOGS KEPT FOR 2 DAYS - N=9
↓	↓
QUESTIONNAIRE FOLLOW-UP N=8	QUESTIONNAIRE FOLLOW-UP N=9

DAVE TODD'S "STUDY OF HELPING BEHAVIOR"

- 2 -

FALL 1970

10th GRADE - 1st SEMESTER/LONGITUDINAL SAMPLE BOYS

	1/3 STRAT. SAMPLES Hi	Mod	Lo		STRATIFIED SAMPLES High	Mod	Low	RANDOM SAMPLE
Wayne H.S. →	N=6	N=6	N=6		N=21	N=18	N=18	N=42
Thurston H.S. →	N=6	N=6	N=6		N=16	N=17	N=18	N=45

GEORGE GILMORE'S "CASE ANALYSIS OF IDENTITY DEVELOPMENT"

4A

*INDIVIDUALLY ADMINISTERED INTERVIEWS

DAN EDWARD'S "STUDY OF THE INTERACTION BETWEEN PERSONAL PREFERENCES AND THE HIGH SCHOOL ENVIRONMENT

- 3 -

*QUESTIONNAIRES ADMINISTERED IN GROUPS OF 20 - 30

- 1 -

	MALE STUDENTS	FEMALE STUDENTS	
Wayne H.S.	N=67	N=68	SOPHOMORES
	N=58	N=58	JUNIORS
	N=42	N=41	SENIORS
Thurston H.S.	N=66	N=66	SOPHOMORES
	N=64	N=64	JUNIORS
	N=52	N=51	SENIORS

PHIL NEWMAN'S "STUDY OF PERSONS AND SETTINGS"

*QUESTIONNAIRES ADMINISTERED TO APPROXIMATELY 1/2 OF THE CLASSES IN EACH SCHOOL - A REPRESENTATIVE SAMPLE OF THE COMPLETED QUESTIONNAIRES WAS THEN RANDOMLY SELECTED (BY SCHOOL, SEX AND GRADE)

SPRING 1971

10th GRADE - 2nd SEMESTER/ LONGITUDINAL SAMPLE BOYS

	1/6 STRAT. SAMPLES H	M	L		1/3 STRATIFIED SAMPLES Hi	Mod	Lo
Wayne H.S. →	N=3	N=3	N=3		N=6	N=6	N=6
Thurston H.S. →	N=3	N=3	N=3		N=6	N=6	N=6

B.NEWMAN'S "SMALL GRP STDY"

5

*8 GROUP DISCUSSION SESSIONS PER SCL WITH PRE & POST GRP & POST SESSION QUESTIONNAIRES

GEORGE GILMORE'S "CASE ANALYSIS OF IDENTITY DEVELOPMENT"

4B

*INTERVIEWS

FIGURE 10

THE DESIGNS, SIZES, SAMPLES AND METHODS OF THE STUDIES CONDUCTED AT WAYNE AND THURSTON HIGH SCHOOLS BETWEEN THE SPRING SEMESTER OF 1970 THROUGH THE SPRING SEMESTER OF 1971 ON WHICH THE PAPERS TO FOLLOW ARE REPORTING

THE BOLD NUMBERS INDICATE THE ORDER IN WHICH THE PAPERS ARE TO BE READ.